

**EXECUTIVE
BOARD
MEETING**

SM/22/51

March 4, 2022

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From: The Secretary
Subject: **Republic of Korea—Staff Report for the 2022 Article IV Consultation**

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REPUBLIC OF KOREA

STAFF REPORT FOR THE 2022 ARTICLE IV CONSULTATION

March 3, 2022

KEY ISSUES

Korea has recovered impressively from the COVID-19 pandemic, which is a testament to its strong economic fundamentals and the authorities' able policy responses. Activity has surpassed pre-covid levels despite multiple COVID waves. The recovery was supported by the effective containment of the pandemic, including rapid vaccination in 2021, and pursuing proactive economic policy support, which helped minimize economic scarring, sustain income growth, and maintain financial stability. Given Korea's high global integration, strong external demand also supported the recovery. The upcoming presidential election offers a window of opportunity to reinvigorate structural reforms.

Growth is projected to remain above potential this year and next, closing any remaining output gap. Softer growth in the first quarter of this year due to omicron is expected to be temporary. Inflation is projected to gradually return to target by next year. Risks to the outlook are tilted to the downside, arising mainly from COVID-related developments, geopolitical uncertainties, and global monetary normalization. The principal domestic downside risks are linked to weakening economic activity from rising COVID infections, and the elevated household debt and real estate prices. Risks to inflation are to the upside.

Given Korea's relatively advanced cyclical recovery but heightened global uncertainties, the policy challenges include: (i) in the near-term, balancing the appropriate pace of policy normalization against heightened global risks, while containing the buildup of risks from housing and household debt; and (ii) as the pandemic abates, shifting the policy focus to structural reform priorities to reinvigorate potential growth and foster greater inclusion:

- Under the baseline, the pace of monetary policy normalization should continue to be calibrated to ensure that inflation stabilizes at its target and expectations remain well anchored; fiscal policy should be broadly neutral while continuing to provide targeted support for affected sectors; and macroprudential policies should continue to guard against systemic financial risks. In particular, containing the rising risks from housing and household debt requires coordinated policy action, including tightening of borrower-based macroprudential policies, raising real-estate taxes, and raising housing supply.

- If downside risks materialize, fiscal policy has ample space to provide further support, while monetary policy has moderate conventional space to provide stimulus, but it could face some tradeoffs if supply disruptions further exacerbate inflationary pressures and hinder activity.
- As the pandemic abates, policy focus should shift to structural reform priorities, including in the context of the Korean New Deal (KND). Renewed structural reform momentum, including further articulation and implementation of the KND, will be important in transitioning to a post-COVID normal. Reinvigorating long-term growth and fostering inclusion requires recalibrating policies to support productivity growth and innovation, providing transitory support amidst reforms to address product, services, and labor market rigidities, and ensuring that Korea's human capital remains a central pillar of the transformation process. In this context, fiscal policy should be anchored in a medium-term fiscal framework that stabilizes the path of public debt, considering the expected fiscal implications of demographics, structural transformation costs, and the need to retain space for countercyclical fiscal policy when necessary.

Approved By
Krishna Srinivasan
and Stephan
Danninger

Virtual consultations took place from January 11–25, 2022. The mission team was Martin Kaufman (head), Hua Chai, Eonyoung Park, Sohrab Rafiq, Andrew Swiston and Stella Tam (all APD). Chang Huh, Byunghee Yoo, and Jinhyuk Yoo (all OED) joined the virtual meetings. Krishna Srinivasan (APD) joined the concluding meetings. Stella Tam and Livia Tolentino contributed to the preparation of this report.

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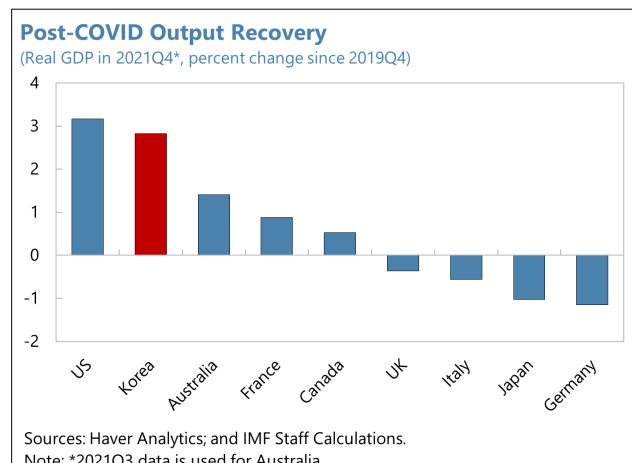
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RECENT ECONOMIC DEVELOPMENTS

1. Korea has recovered impressively from the COVID-19 shock. Activity has surpassed pre-Covid levels in early 2021, with the cumulative recovery ranking among the strongest relative to other advanced economies (Figure 1). The recovery was supported by the effective containment of the pandemic (including rapidly ramping up vaccination in 2021, with over 85 percent of the population now fully vaccinated and over half the population boosted), and pursuing proactive economic policy support, which helped minimize economic scarring, sustain income growth, and maintain financial stability. High global integration and strong external demand has also supported the recovery, with Korea remaining generally resilient to global supply chain disruptions. These successes are a testament to Korea's strong economic fundamentals and macro-financial policy framework, and the authorities' rapid and effective policy responses.



2. The economy has been growing above trend, but the recovery remains somewhat uneven. In 2021 real GDP growth reached 4 percent, but activity has slowed since late 2021 as social distancing measures were tightened due to waves of the delta and omicron variants, respectively (Figure 1). However, supply bottlenecks that impacted automotive production and sales in mid-2021 appear to be normalizing. Tech exports and related investment have been the key drivers of growth, while the recovery in consumption has been slower. As a result, activity in many segments of the services sector remains well below pre-COVID levels. This has reduced employment opportunities and income of low-skilled workers, exacerbating pre-COVID inequalities.

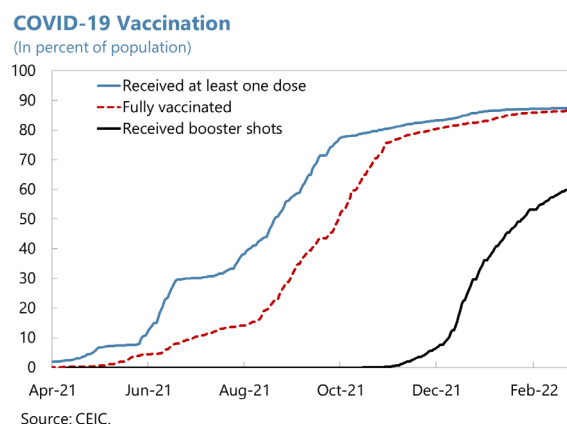
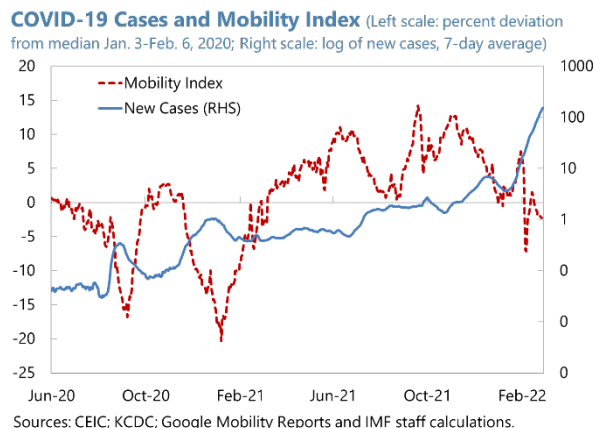
3. The labor market has been recovering well, with indicators suggesting some remaining slack. Employment and the unemployment rate are now at their pre-COVID levels, but pockets of labor market weakness remain in high-contact services more exposed to the pandemic and social distancing measures (Figure 2). Labor force participation has yet to fully recover for 20–49 year-olds. Underemployment, when considering hours worked, and the number of workers outside the labor force who would be available to work also remain above previous norms.

4. Inflation has risen above the Bank of Korea's 2 percent target due to higher commodity prices and, more recently, a broadening of price pressures. Headline inflation rose to 3.6 percent in January, driven by both supply and demand factors (Figure 3), with the inflation rate accelerating since H2-2021. On the supply side, increases in global energy and food prices have passed through to Korean inflation, and global supply chain disruptions have contributed to higher prices for goods including automobiles and furnishings. Services inflation has also increased—notably housing rental

Figure 1. Developments in Real Economic Activity

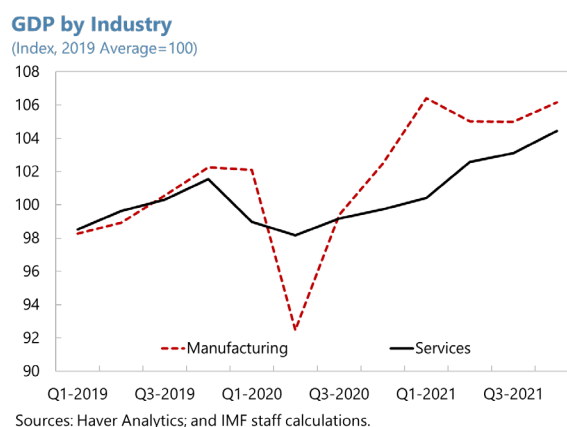
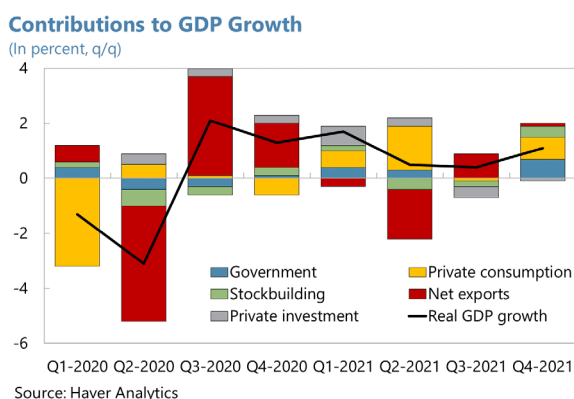
The rapid spread of omicron is reducing mobility and posing risks to the economic outlook...

...despite widespread levels of vaccination.



Growth recovered in Q4 driven by implementation of a supplementary budget...

...which boosted services activity ahead of the omicron wave...



...and supported consumption, while investment remained sluggish with supply chains a factor.

Supply chains appear to be normalizing, after constraining operating ratios and inventories in 2021.

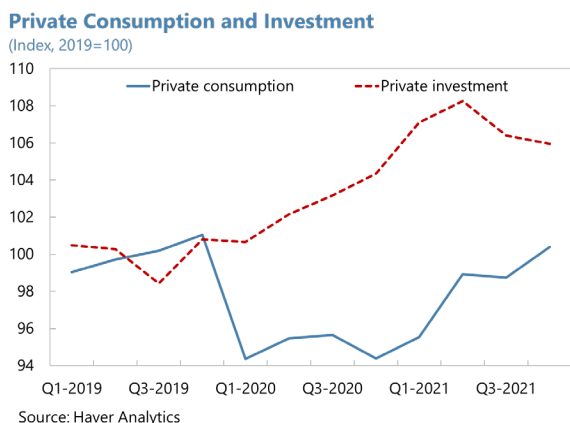


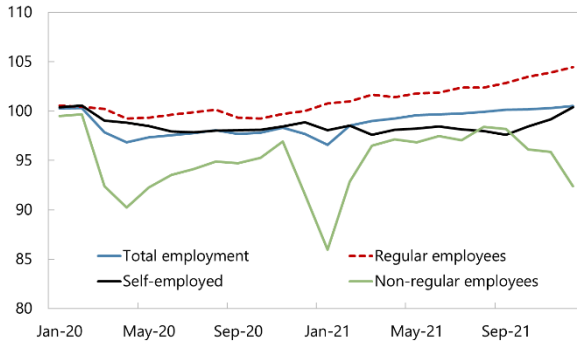
Figure 2. Labor Market Developments

Employment has grown more among regular than non-regular employees or the self-employed.

This has contributed to a slower recovery for women and the less educated.

Employment by Status of Workers

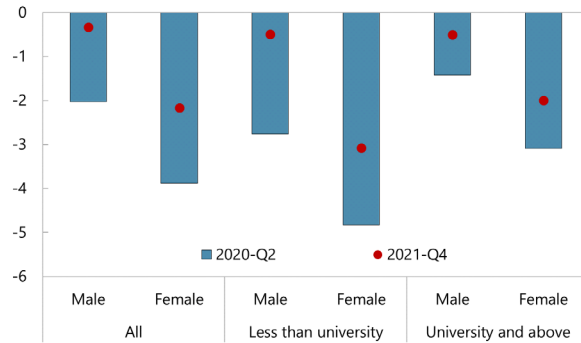
(Index, Dec 2019 = 100)



Sources: Haver Analytics; and IMF staff calculations.

Employment by Educational Attainment

(In percent difference from 2015-19 trend)



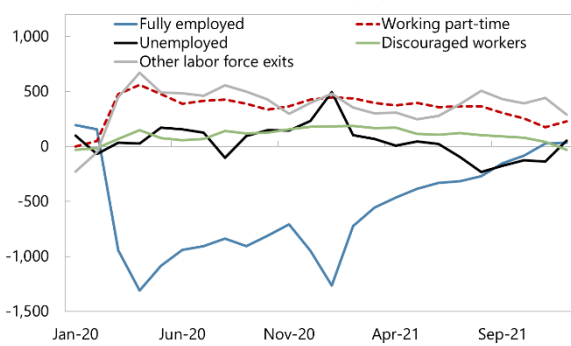
Sources: Haver Analytics; and IMF staff calculations

Unemployment has normalized, albeit some people have either left the labor force or are working part time.

This implies some remaining labor market slack despite the low unemployment rate.

Labor Market Flows

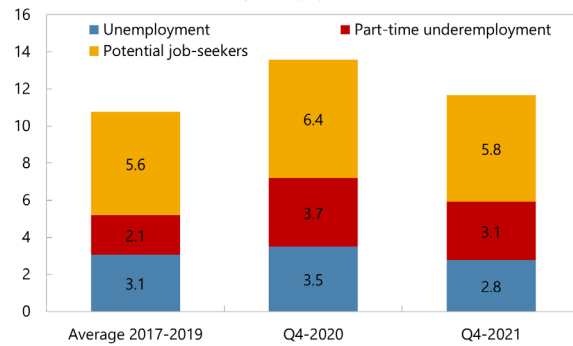
(Cumulative flows since 2019-Q4, in thousands of people)



Sources: Haver Analytics; Statistics Korea; and IMF staff calculations

Labor Utilization Measures

(Percent of extended economically active population)



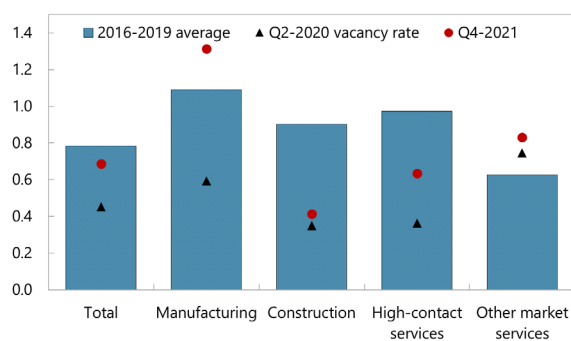
Sources: Statistics Korea; and IMF staff calculations.

Aggregate job vacancy rates are normalizing, but with wide variation across sectors.

Nominal wages have accelerated, though wage gains are moderate when adjusted for productivity.

Job Vacancy as Percentage of Employment

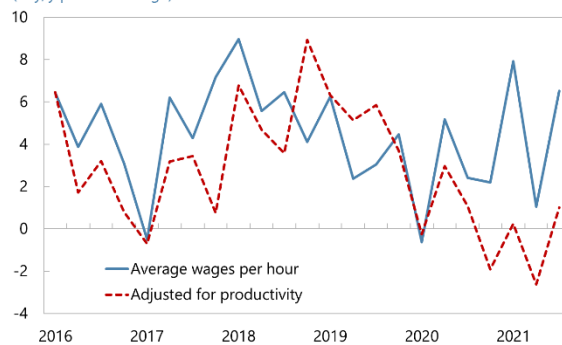
(In percent)



Sources: Haver Analytics; and IMF staff calculations.

Average Wage

(In y/y percent change)



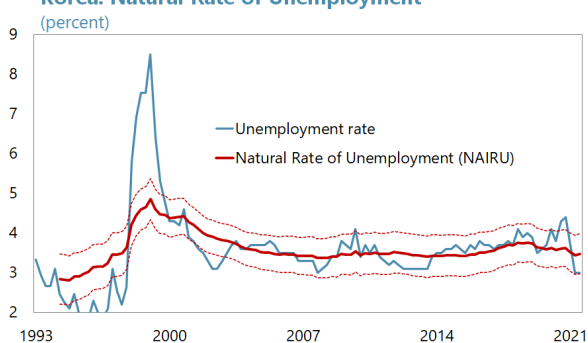
Sources: Haver Analytics; and IMF staff calculations.

and eating out—indicative of rising demand-side pressure. Core inflation has also been rising and has moved above 2 percent recently with rising diffusion of price pressures. Producer prices suggest some potential continuation of inflationary pressures in the pipeline,¹ but wage increases—while rebounding from weakness in 2020—are modest when adjusting for productivity growth. Inflation expectations have also started to reflect heightened inflationary pressures, but medium-term expectations have so far remained well anchored and market analysts generally see inflation converging to target next year (Annex V).

Text Figure. Korea: Structural Labor Market Indicators

Post-COVID estimates of the NAIRU suggests limited structural labor market scarring thus far.

Korea: Natural Rate of Unemployment

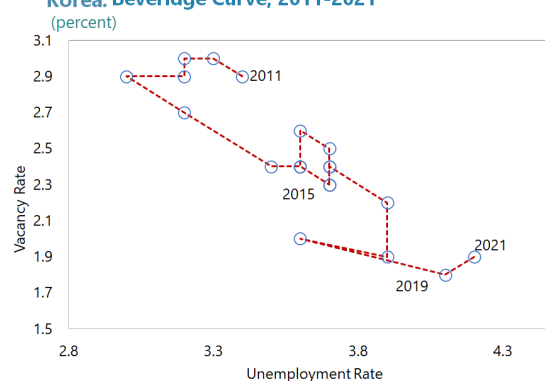


Source: Consensus forecast, Haver and IMF staff calculations.

Note: The NAIRU is estimated using a time-varying Kalman filter, taking into account inflation expectations, wage growth, import price inflation and ex post inflation.

However, the Beveridge curve has shifted right with unemployment having risen given greater vacancies.

Korea: Beveridge Curve, 2011-2021



Source: CEIC, Statista, and IMF staff calculations.

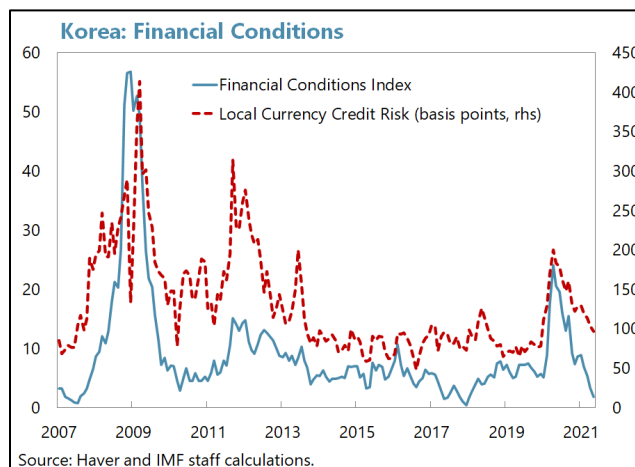
5. The external sector has continued to perform well, supported by robust external demand. The current account surplus in 2021 is projected to have widened to around 4.9 percent of GDP, driven by robust tech exports, a narrowing of the services deficit due to an increased transportation surplus, and a favorable income balance (Figure 4). Reserves remain adequate, increasing by US\$20 billion by the end of 2021, including the IMF's 8.2 billion SDR allocation. The NEER and REER depreciated through 2021. More recently, on bilateral basis the won depreciated against the U.S. dollar due to renewed COVID-related uncertainties and the expectation of a faster normalization of U.S. monetary policy. The preliminary 2021 external sector assessment suggests that the external position was broadly in line with fundamentals and desirable policies. (Annex I).

6. Despite some recent tightening, financial conditions remain accommodative, but risk sentiment may be starting to turn. Sovereign and corporate yields have increased but remain low by historical standards, with non-financial corporate balance sheet indicators showing resilience. Korean forward rates have risen more than in other countries, consistent with a relatively improved outlook, and the yield curve has steepened to a post-GFC high. US dollar funding conditions remain stable; bank funding and lending conditions remain compressed; and equity market valuations remain close to their record highs, despite some recent correction, helping support record IPO

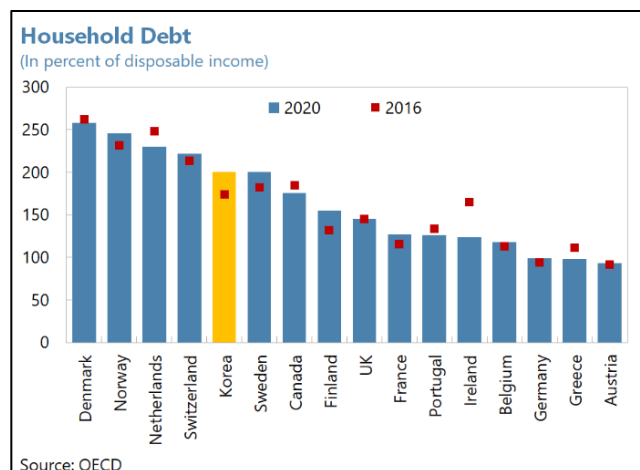
¹ Measures of inflation persistence in Korea have historically been low and pass-through from producer to consumer prices has also historically been low (Annex V).

issuances and double-digit growth in corporate bond issuances in 2021 (Figure 5). However, corporate bond rates have risen, and funds have begun rotating from risk assets. Borrowings in the asset-backed commercial paper market (ABCP), a key source of financing for construction firms and the non-bank financial sector, has also fallen recently due in part to tighter liquidity regulations and lower balance sheet space for securities firms.

7. Korea’s financial system remains sound, supported by non-financial corporate (NFC) balance sheet resilience. Bank capital levels remain above the regulatory minimum and, on the back of recent rapid credit growth and the expected withdrawal of COVID lending support policies, they have recently moved to raise additional capital to build extra buffers. Non-performing loan (NPL) ratios remain low and recent stress tests undertaken by the Bank of Korea (BoK) found the banking system to be resilient to macroeconomic shock scenarios that exceed the recent downturn. Bank non-core funding and FX risks are small; bank profitability has increased recently but had been relatively subdued due to the low interest rate environment, increasing competition from Fintech, and demographic factors.² Corporate debt has increased from its pre-COVID trend. However, NFC default probabilities across sectors have remained low due to strong earnings growth and COVID support measures. A large share of small medium-sized enterprises (SMEs) remains vulnerable, with weak balance sheets and low profitability even before the pandemic. Covid lending-support policies have been critical to prevent widespread stress in this segment, particularly among firms in contact intensive sectors.



8. Household debt and house prices grew at unprecedented pace during the pandemic. Household credit grew very rapidly during the pandemic period and, while it has moderated recently, household debt levels are very high among OECD countries. Household debt vulnerabilities are mitigated however by relatively low loan-to-value (LTV) ratios and little subprime lending. The rapid increase in household credit, a broad decline in mortgage rates, and generalized search for yield during the pandemic fueled unprecedented house price inflation, particularly in the major urban centers. The house price-to-income ratio is at multi-decade high and staff analysis suggests house prices are in overvaluation territory.



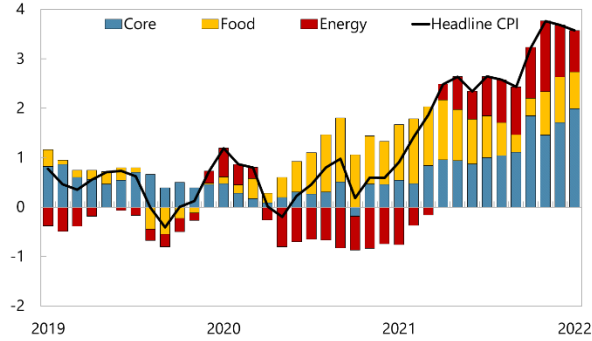
² See Korea’s 2020 FSAP.

Figure 3. Inflation Developments

Headline inflation has increased above the 2 percent target, driven in part by energy prices.

Contribution to Inflation

(In y/y percent change and contributions in percentage points)

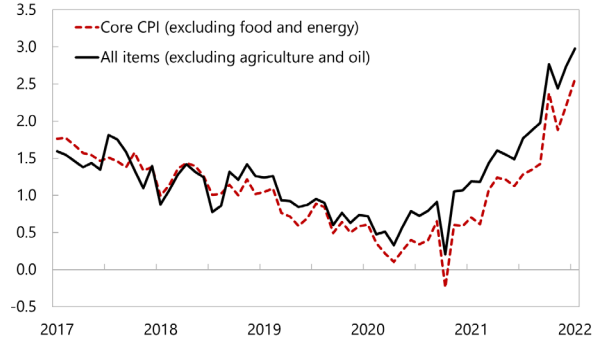


Sources: Haver Analytics; and IMF staff calculations.

Underlying inflation is also rising...

Measures of Core Inflation

(In y/y percent change)

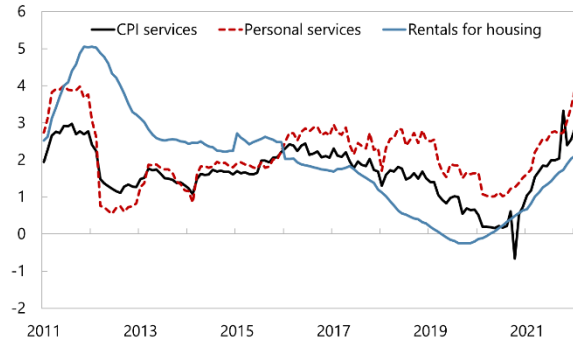


Sources: Haver Analytics; and IMF staff calculations

...driven by rising prices for personal services and housing rentals.

Price of Services

(In y/y percent change)

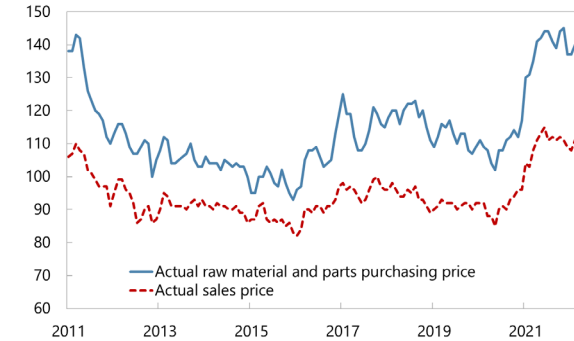


Sources: Statistics Korea; and Haver Analytics

Businesses are reporting pressures on input prices and raising sales prices as a result...

BOK Business Survey Responses on Price Pressures

(Index, 100=Neutral)

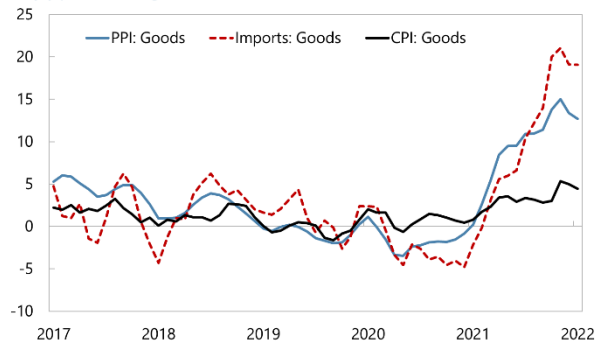


Sources: Haver Analytics; and IMF staff calculations

...though the pass-through from inputs to final prices has been more muted.

Prices of Goods

(In y/y percent change)

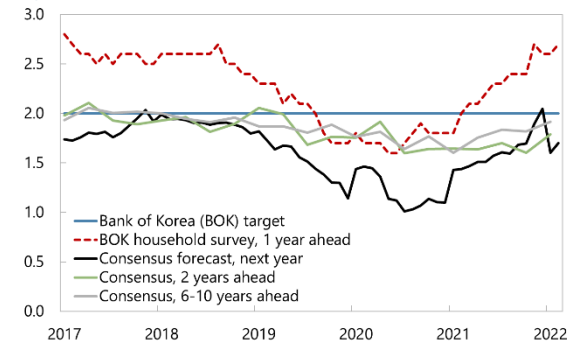


Sources: Haver Analytics; and IMF staff calculations

Inflation expectations have increased but medium-term expectations remain well-anchored around the target.

Inflation Expectations

(In percent)



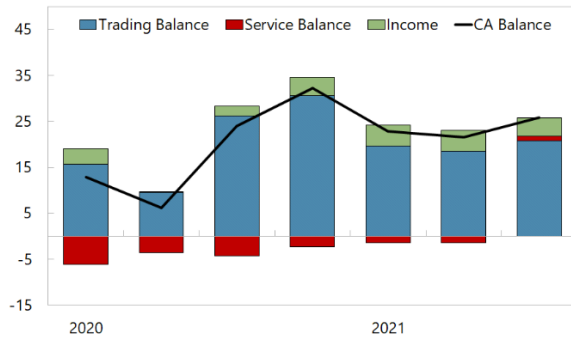
Sources: Consensus Forecasts, Haver Analytics and IMF staff calculations.

Figure 4. External Sector

Following an improvement from the initial Covid shock, the current account surplus has remained strong ...

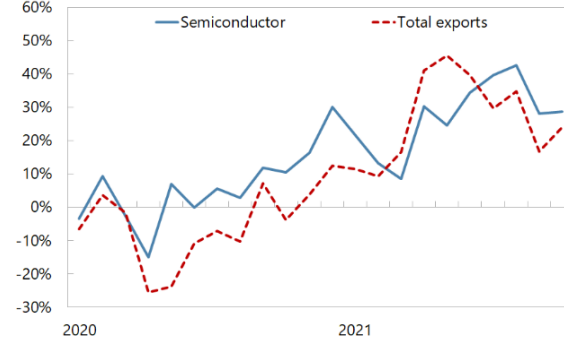
...as exports performed well, supported by strong external demand for tech products...

Current Account Balance
(In US\$ Billion)



Sources: IMF staff calculations.

Merchandise Exports
(In y/y percent change)

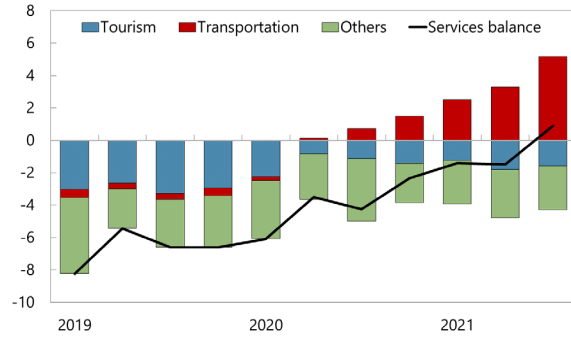


Sources: IMF staff calculations.

...and the services deficit narrowed on the back of subdued tourism and a spike in transportation exports.

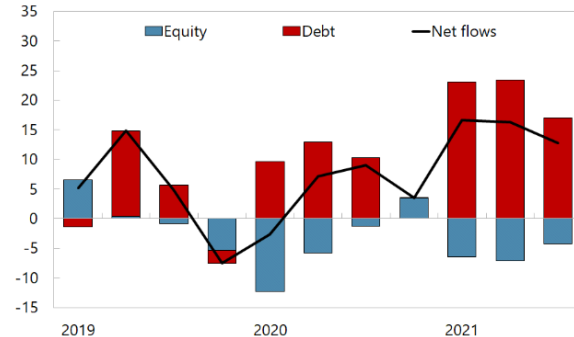
Nonresident portfolio flows remained buoyant, with debt inflows outweighing some equity outflows.

Services Account Balance
(In US\$ Billion)



Sources: IMF staff calculations.

Nonresident Portfolio Capital Flows
(In US\$ Billion)

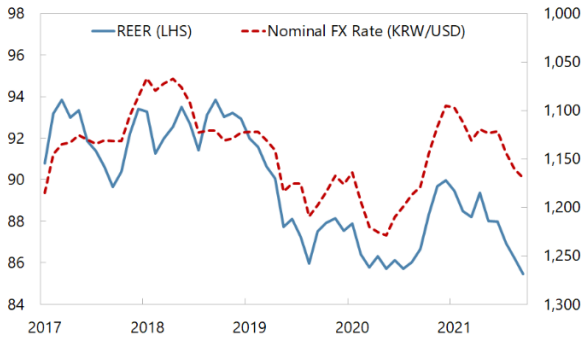


Sources: IMF staff calculations.

The REER has reversed the appreciation early in the pandemic.

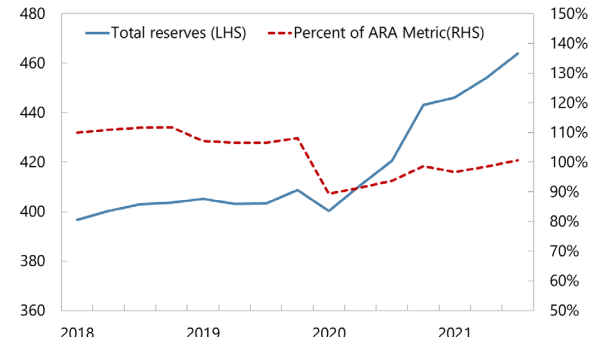
Reserves continued to increase in 2021 and remained adequate.

REER and Nominal FX Rate
(REER in Index 2005=100)



Sources: IMF staff calculations.

International Reserves
(In US\$ Billion)

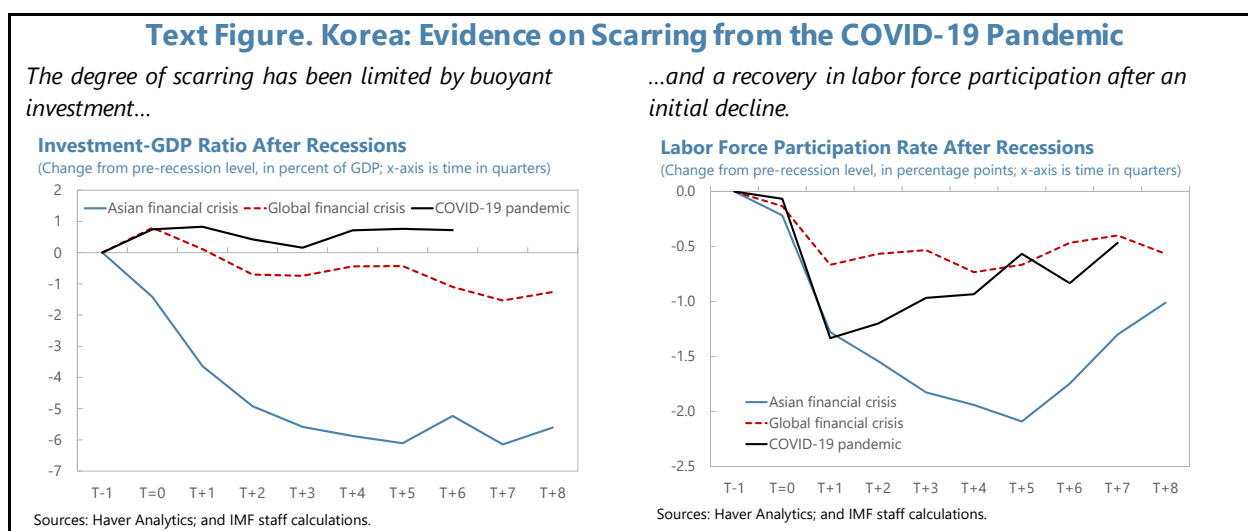


Sources: IMF staff calculations.

OUTLOOK AND RISKS

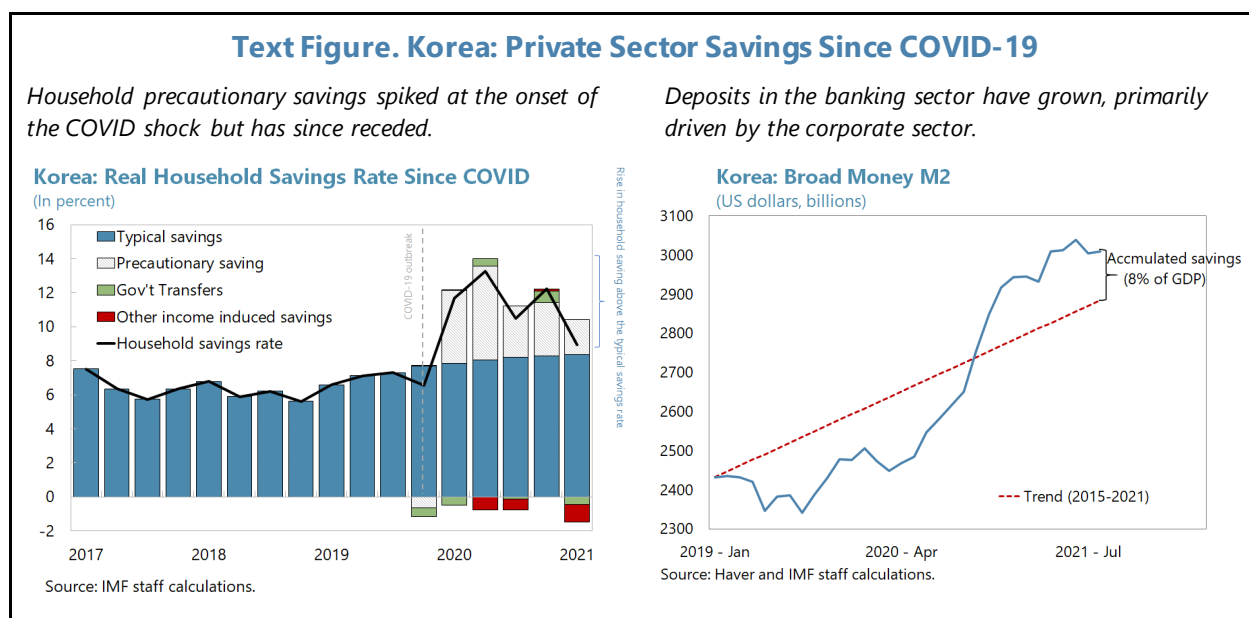
9. Growth is projected to remain above potential in 2022 and 2023. Growth in the first quarter of 2022 is expected to soften temporarily due to the omicron wave, partially buffered by the expected implementation of a supplementary budget. Above-trend growth rates are projected for the rest of the year with assumed relaxation in social distancing measures and some normalization of private saving helping drive a recovery in private consumption, which remains below its pre-COVID level. Exports are projected to remain buoyant given still-strong trading partner demand, especially for high-tech goods. Along with gradual normalization of supply chain bottlenecks, this will support investment growth after it softened in the second half of last year. These factors are expected to persist into 2023. Growth is forecast at 3.0 and 2.8 percent, respectively, in 2022 and 2023, which would absorb remaining spare capacity by 2023.³ Productivity has been buoyant, continuing to rise throughout the pandemic and estimated to have increased by over 4 percent in 2021. This has been supported by structural shifts favoring high-tech industries and broader trends toward automation, both of which have boosted investment in machinery and equipment. Along with the labor market recovery, this has kept the overall scarring effects of the pandemic lower than initially expected. However, demographics continue to pose a key headwind to potential growth, and growth is projected to slow in the medium term toward its estimated potential rate of between 2-2.5 percent.

10. Inflation is projected to gradually return to target by next year. Given the broadening of price pressures, headline inflation is projected to remain above 3 percent for most of 2022 before moderating to about 2.5 percent by year-end, and to 2 percent in 2023, as monetary policy normalization continues and pressures from non-core components (including high energy prices) and supply chain disruptions are expected to subside. With inflation expectations well-anchored, second-round effects are expected to be contained, and core inflation is projected to remain in the mid-2 percent range in 2022 before falling to about 2 percent in 2023.



³ While the pandemic has introduced some uncertainty surrounding potential growth and the amount of remaining spare capacity, a broad range of evidence including labor market indicators, potential output models, underlying price pressures, and industry-level activity indicators suggests that there is still some remaining slack in the economy.

11. The external position is expected to remain being broadly in line with fundamentals as the pandemic abates. In 2022 the current account surplus is projected to narrow slightly as COVID-related transitory factors recede and domestic demand strengthen further. The external position is expected to be broadly in line with fundamentals over the medium term, helped by social safety net and other reforms that increase productivity and reduce precautionary savings. Recent efforts to further enhance Korea's trade integration, including through RCEP and CPTPP, and to support the rules-based multilateral trading system are welcome.



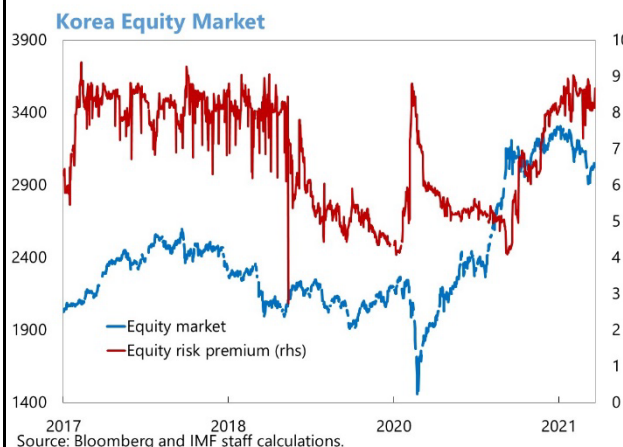
12. Risks to the outlook are tilted to the downside, arising mainly from COVID-related developments, geopolitical uncertainties, and global monetary normalization (Annex II).

- Key downside risks to growth for Korea are linked to the global effects of Omicron, geopolitical uncertainties, and monetary normalization in advanced economies. Given Korea's high integration into the global economy, an abrupt slowdown in key trading partners, protracted supply chain disruptions or disorderly market adjustments, due to monetary normalization in major advanced economies or increase in global risk aversion, can significantly affect growth.⁴
- The principal domestic downside risks are linked to weakening economic activity from rising COVID infections, and the elevated household debt and real estate prices. Given the still-high level of household savings, there are some upside risks to activity from pent-up consumer demand, especially if the domestic services sector is able to reopen during H1-2022.

⁴ Geopolitical uncertainties may heighten the risk of stagflationary pressures globally and for Korea. Higher commodity prices, particularly energy, will exacerbate inflationary pressures in Korea. Supply chain disruptions, including key components for semi-conductor manufacturing, as well as elevated global uncertainties, which would soften external demand conditions, will hinder economic activity in Korea.

Figure 5. Financial Sector Developments

Equity market valuations remain high, but there are signs of a growing correction.



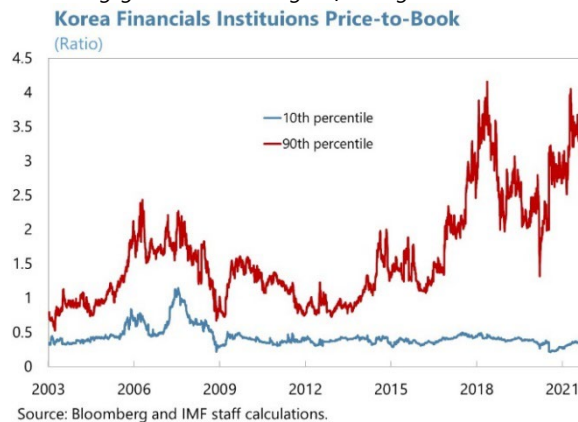
The recent fall in equity returns relative to bonds imply growing risk aversion, and flight to safety.



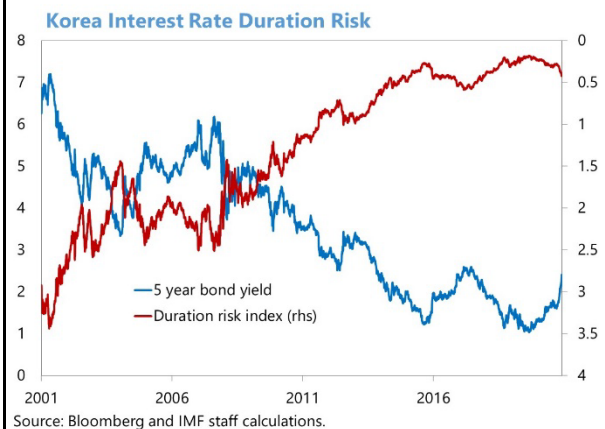
Financial risk spreads remain compressed as the yield curve has steepened to a post-GFC high...



There is little sign of bank balance sheet stress despite the strong growth in lending, reflecting low loan losses.



However, duration risk has grown due to search-for-yield during the low interest rate environment.



Despite the recent depreciation in the exchange rate, won-dollar funding conditions remain loose.

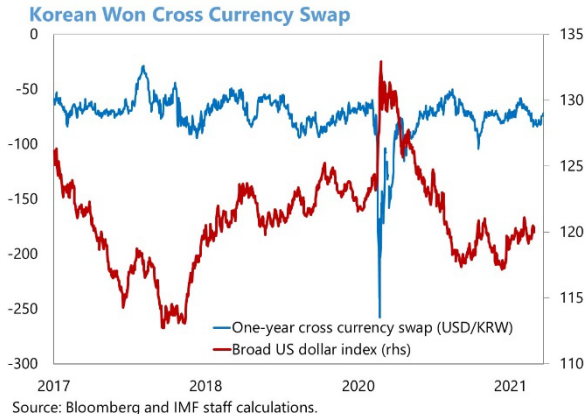
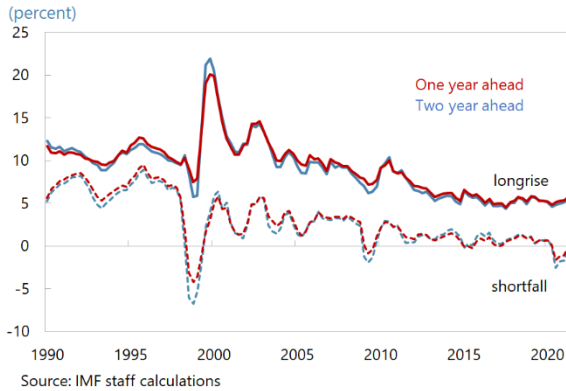


Figure 6. Risk-Metric Indicators

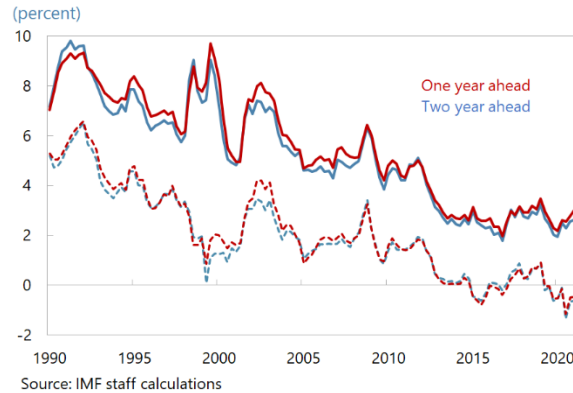
Real GDP 'Value-at-Risk Expected Shortfall' (VAR-ES) shows severe downside risks are limited....

Korea Real GDP-at-Risk



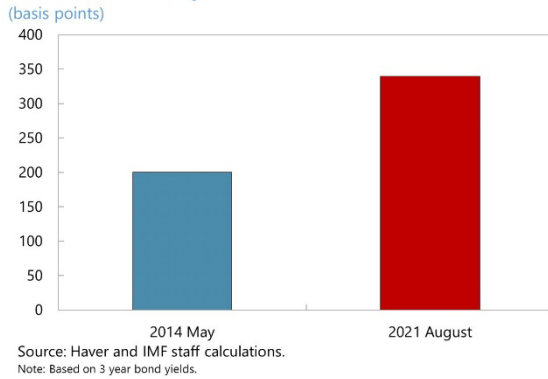
...while medium-term upside inflation risk has increased but remains contained.

Korea Inflation-at-Risk



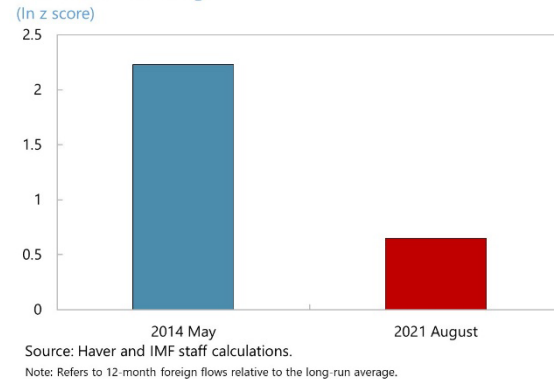
A Fed taper should have a smaller impact compared-to the 2014 tantrum due to a wider spread buffer...

Real Interest Rate Spread Buffer



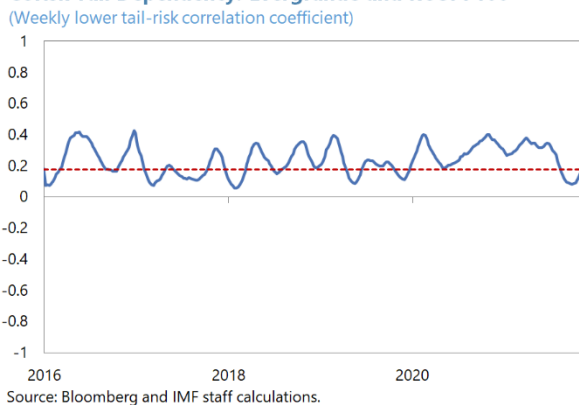
....and less aggressive investor positioning in Korean assets.

Investor Positioning



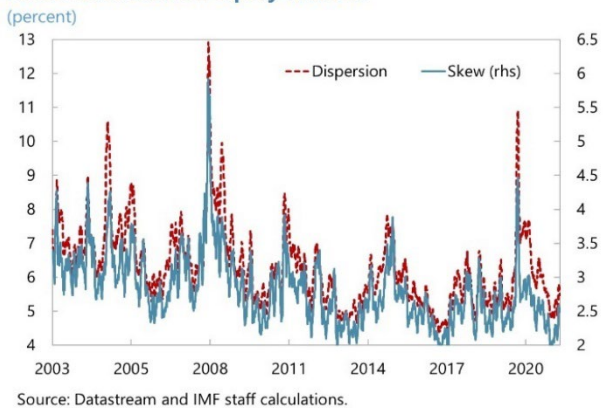
Lower tail-risk correlation between Evergrande stock price and Korea equity market is weak.

Corisk Tail Dependency: Evergrande and KOSPI 100



Uncertainty about the probability of firm-level disasters across sectors remains subdued.

Korea Cross Section Equity Returns



Note: 'Shortfall' is the conditional expectations (average) of GDP growth in the 5 percent tail of the predictive distribution; this corresponds to the Value at Risk-Expected Shortfall (VaR-ES)—the growth that would occur with 5 percent probability.

- Risks to the inflation outlook are to the upside. Continued global price pressures, further disruptions to domestic supply, or higher pent-up demand for domestic services could exacerbate inflationary pressures. But in the case of disruptions to global supply chains or to domestic services supply these shocks would also be a drag to economic activity and heighten risks of stagflation.

Authorities' Views

13. The authorities broadly agreed with staff's outlook for growth and inflation in 2022, though they assess the economy to currently be near its productive potential. In their view above-potential growth would be led mainly by consumption and exports, with the latter being helped by buoyant external demand, notably for tech products. Given high private savings rates they see an upshot for consumption if social distancing measures are lifted in the first half of the year. They are of the view that economic slack has largely been absorbed by the recovery to date, based in part on lower estimates of potential growth for several reasons, including scarring effects of the pandemic on output, and a larger drag from the gradual decline of the working age population since the late 2010s. Like staff, they emphasized the uncertainty surrounding the degree of remaining slack. The authorities shared staff's views on inflation in expecting that it would likely remain above target in 2022 and gradually converge in 2023 as supply chains normalize, contributions of food and energy prices stabilize, and policy accommodation is withdrawn.

14. The authorities generally agreed with the staff's External Sector Assessment for 2021. The recent growth in the current account surplus reflected transitory COVID-related factors and supply chain bottlenecks. They pointed to semiconductor export and shipping performance being much stronger than usual, while strong search for yield activity may have boosted the primary income balance. The authorities noted that the recent won-dollar depreciation indicated that the underlying external position is not misaligned but rather reflecting temporary factors.

POLICY DISCUSSION

A. Policy Normalization amid Heightened Global Uncertainties

Given Korea's strong recovery and relatively advanced cyclical position, the key near-term policy challenge is balancing the appropriate pace of policy normalization against heightened global downside risks. Under the baseline, the pace of monetary policy normalization, which has already begun, should continue to be calibrated to ensure that inflation stabilizes at its target and expectations remain well anchored; macroprudential policies should continue to guard against systemic financial risks; and fiscal policy should be broadly neutral while continuing to provide targeted support for affected sectors. If downside risks materialize fiscal policy has ample space to provide further support, while monetary policy has moderate conventional space to provide stimulus, but it could face some tradeoffs if supply disruptions further exacerbate inflationary pressures and hinder activity.

15. The BoK has appropriately begun normalizing monetary policy, given Korea’s relatively advanced cyclical recovery and rising inflationary pressures. The policy rate has been raised three times since October 2021 by a cumulative 75 basis points (bps) and markets are pricing in further hikes by end of this year. The tightening in the policy rate has reduced monetary stimulus, but the stance remains accommodative, as the real policy rate remains below most estimates of Korea’s real neutral rate, including that of staff. Korea’s relatively balanced macroeconomic policy mix has supported the measured pace of monetary policy normalization so far. There is further room to continue normalizing monetary policy to address inflationary pressures, rebuild policy space and reinforce the tighter macroprudential stance (Figure 7).

16. Going forward, continuing with monetary policy normalization remains appropriate. Korea’s recovery is relatively advanced and inflationary pressures are rising, but the recovery is still uneven and there are heightened global uncertainties. In this context, the pace of monetary policy normalization should continue to be data dependent weighing the strength of the economic recovery against rising inflationary pressures. Several considerations could help inform monetary policy going forward including those associated with potential headwinds from high household debt and, in the opposite direction, a lower sensitivity of activity to policy rate changes in recent years (Annex VI and VII).

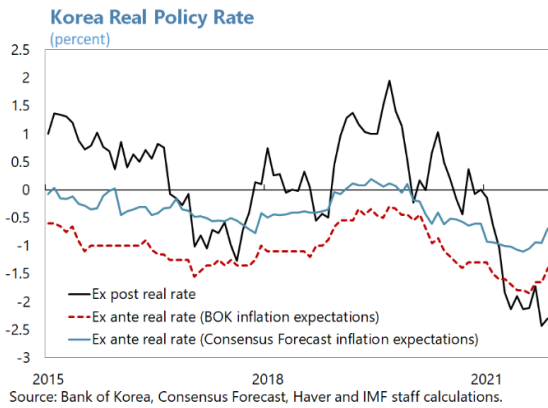
17. If downside risks materialize, monetary policy can provide further stimulus but could face some tradeoffs if supply disruptions create stagflationary conditions. Conventional monetary policy has some moderate space to provide stimulus if downside risks materialize, but it could face some challenges if supply disruptions further exacerbate inflationary pressures and hinder activity, creating stagflationary conditions. In this context, the BoK should enhance its communications to provide greater guidance on monetary policy to help further anchor expectations and alleviate potential tradeoffs. The next monetary policy framework review would provide an opportunity to address some of the potential challenges associated with the BoK’s multiple mandates.⁵

18. Public spending appropriately continued to support the recovery in 2021, but the fiscal deficit was smaller than projected due to strong revenue overperformance. Public spending increased by about 1 percentage point of GDP last year, with the use of supplementary budgets providing scope for adjusting and targeting fiscal support as warranted by the evolving pandemic conditions. However, the deficit is projected to be lower than originally expected due to overperforming tax revenues from the strong economic recovery and buoyant asset markets, which have a transitory component (Box 1). The central government fiscal deficit as of end-November stood at 1.1 percent of GDP, with staff estimating the end-year deficit to be around 2 percent of GDP.

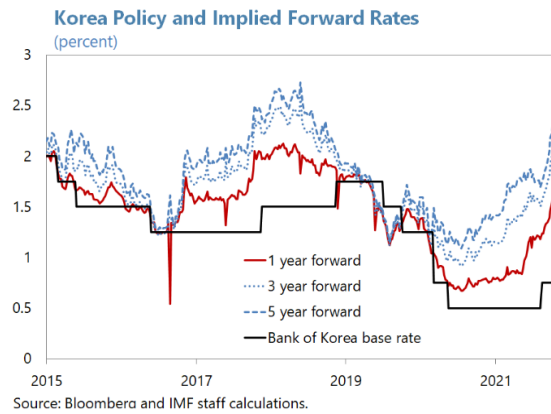
⁵ See Republic of Korea: Financial Sector Assessment Program-Technical Note-Macroprudential Policy Frameworks and Tools: <https://www.imf.org/en/Publications/CR/Issues/2020/09/18/Republic-of-Korea-Financial-Sector-AssessmentProgram-Technical-Note-Macroprudential-Policy-49749>

Figure 7. Fiscal and Monetary Policy Space Indicators

Despite the recent increase in the policy rate, real rates remain negative.



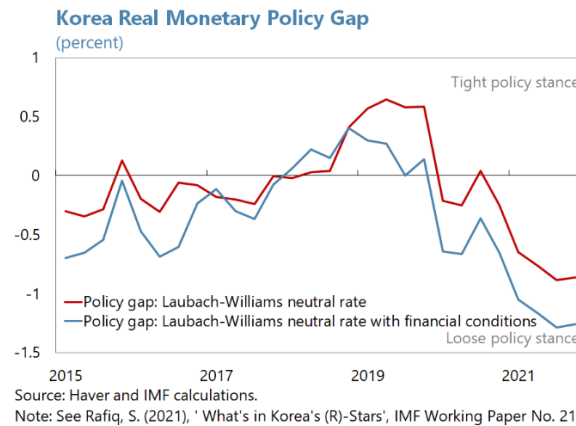
Markets are pricing in additional monetary tightening.



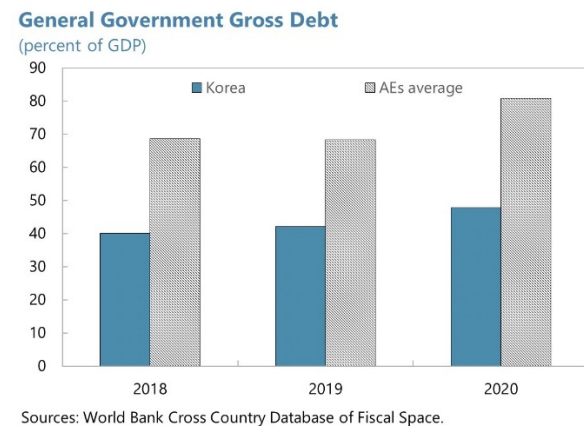
Term premia remains compressed with yields being driven by rate hike expectations.



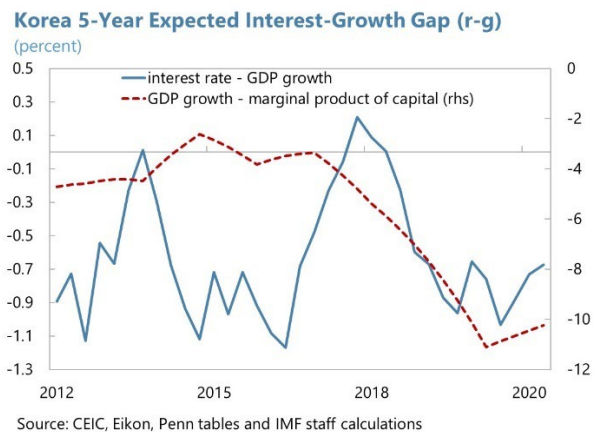
Despite the increase in policy rate, the monetary stance remains stimulative.



Korea has significant fiscal space due to the relatively low level and sound composition of public debt...



Debt buildup driven by higher primary deficits is partially offset by negative r-g.



19. A broadly neutral fiscal stance in 2022 would support the policy normalization process.

The fiscal deficit is projected to remain at around 2 percent of GDP, as lower expenditures as a share of GDP (including policy lending) relative to 2021 is offset by less buoyancy in revenues from a moderation in economic growth and house prices. This would imply a broadly neutral fiscal stance, adjusting for temporary housing market-related revenues, which is appropriate at the current juncture. With the emergence of the omicron wave, the authorities' readiness to deploy targeted support is welcome, including the recently proposed 16.9 trillion won supplementary budget aimed at supporting SMEs impacted by the pandemic, particularly in contact-intensive sectors.

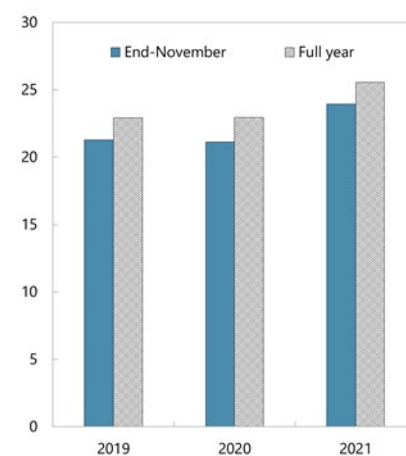
Box 1. Korea's 2021 Tax Revenue Overperformance¹

Revenue performance has been very strong in 2021. Tax revenues reached 323.4 trillion won by end-November higher than the same period in 2020 and 2019 by 21 and 17 percent, respectively. It has already surpassed tax revenue projection for the whole year of 314.3 trillion won in the 2nd supplementary budget. Tax revenue is projected to reach 343 trillion won, or 16.6 percent of GDP, a decades-high for Korea.

Tax revenue overperformance has been driven by the buoyant real estate and stock markets. Taxes on income, profits, and capital gains, and property taxes accounted for nearly the entire increase in tax revenues between November 2019 and November 2021. In contrast, revenues from VAT, custom duties, and other taxes have remained nearly flat in percent of GDP relative to pre-COVID levels.

Going forward, asset market-related tax revenues are projected to decline moderately but remain above pre-COVID levels. Property tax revenue in coming years is expected to stay close to the 2021 level, while capital gains tax revenue is expected to fall moderately as asset prices are assumed to grow only modestly. Tax revenue is therefore expected to decline from 16.6 percent of GDP in 2021 to around 15.5 percent of GDP over the medium term.

Korea: Central Government Revenue
(In percent of GDP)



Source: Haver Analytics.

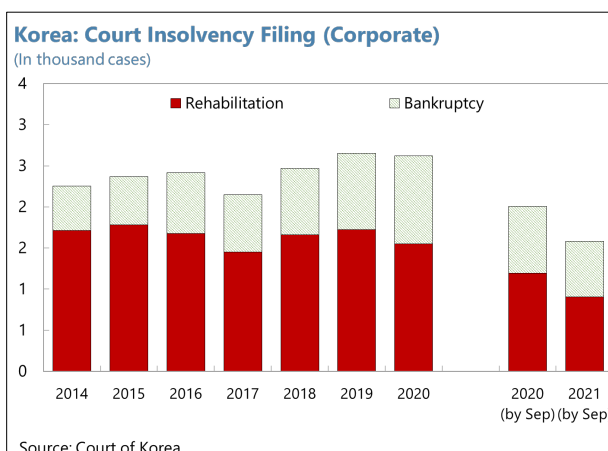
1/ Prepared by Hua Chai.

20. If downside risks materialize, fiscal policy should provide prompt stimulus. Korea has ample fiscal space and, through the pandemic, has demonstrated that its fiscal policy can be nimble to provide targeted stimulus to affected sectors as warranted, which can be particularly appropriate if stagflationary pressures arise.⁶ In this context, additional stimulus could be implemented through the front-loading of budgeted expenditure and, if necessary, enacting a supplementary budget as done during the pandemic. Learning from recent experience, the targeting of additional stimulus could also be further improved by calibrating support to specific measures of hardship such as income loss, in line with good practice in other advanced economies.

⁶ Staff's Debt Sustainability Analysis (Annex III) shows that central government debt is projected to rise from 36 percent of GDP in 2019 to about 51 percent of GDP in 2025, which is well within manageable levels. The projection is based on current policies and thus does not incorporate the impact of the proposed fiscal rule.

21. Korea's lending support policies during the pandemic have been critical to limit corporate stress, particularly among SMEs.

Lending support has centered around maturity extensions for SMEs and small merchants, which aide short-term liquidity and balance sheets capacity by lowering the value of debt measured in present value (NPV) terms. There has been less take up by firms of credit support based on principal and interest payment deferrals. The rapid economic recovery has also aided SME balance sheets, resulting in falling demand for support facilities (Figures 8 and 9). However, some measures of leverage for these firms have increased compared to its pre-COVID trend. Cases of corporate insolvency filings remain lower than pre-COVID. However, this may suggest that some measures currently in place are holding back the necessary exit of unviable firms; pre-COVID around 50 percent of SMEs were considered zombie.⁷



22. The withdrawal of lending support policies should be carefully calibrated to reduce risks of sudden tightening of credit, particularly for SMEs, while further focusing on viable firms. The challenge going forward is balancing the need to start withdrawing pandemic lending policies against the risk of reducing support prematurely. A premature withdrawal of support, ahead of durable buoyancy in domestic activity, could cause an abrupt tightening in credit and a spike in insolvencies, particularly among SMEs and small merchants. The lending support policy mix would therefore need to transition from liquidity to solvency support, restructuring, and facilitating exit as markets normalize and uncertainty about firms' viability is resolved (Box 2).⁸

23. Korea's strong prudential framework helped maintain financial sector resilience through the pandemic, but further tightening of prudential measures may be needed to contain the buildup of risks from housing and household debt. The pandemic saw unprecedented growth in household debt and house prices, which are beginning to slow on the back of tighter monetary conditions and borrower-based prudential measures. The authorities' close vigilance over the potential buildup of financial risks and household balance sheets is commendable, including through regular stress testing. Nevertheless, borrower-based policies may need to be tightened further to contain the buildup of risks, while consideration should also be given to strengthening banks' capital buffers for sector-specific risks linked to real-estate (see Section B).

⁷ See Republic of Korea: Financial Sector Assessment Program-Technical Note-Non-Financial Balance Sheet Vulnerabilities and Risks to Financial Stability: <https://www.imf.org/en/Publications/CR/Issues/2020/09/18/Republic-of-Korea-Financial-Sector-Assessment-Program-Technical-Note-Non-Financial-Balance-49750>

⁸ The potential for latent credit risks from corporate and SME lending calls for supervisory vigilance to continue its intensified credit quality monitoring for the period after the exits from COVID-19 support measures. (See Box 2).

Box 2. A Strategy for Withdrawal of Lending Policies in Korea^{1/}

Lending support policies have helped contain macro-financial risks from corporate balance sheets. Their withdrawal should be phased and sequenced with broader policies to minimize risks of disruption.

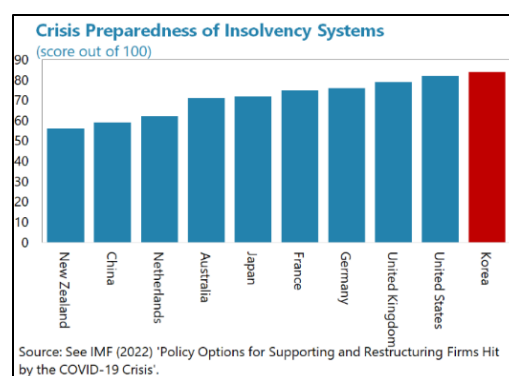
Consideration could be given to a package comprising several areas:

Withdrawal of support policies: The withdrawal of bank support measures should be progressive and sequenced and start by narrowing support eligibility to firms that were viable pre-COVID, particularly in lagging sectors. This could be complemented by the removal of the payment of principal, which will help banks gather information about firms and their viability through their repayment behavior. The terms on which support is provided can also be made progressively less generous, so that fewer firms opt in, while loan guarantee schemes could lower the proportion guaranteed. Against the backdrop of pronounced COVID-related uncertainties, the authorities should also issue guidance through clear and timely communication on the conditions under which support measures will be phased out by explaining how they will approach their decision-making, and which factors they will consider. This would lower the costs associated with withdrawal by reducing the risk of surprises and abrupt adjustments in financial markets.

Contingency planning: Supervisors should assess the adequacy of banks' capitalization to absorb potential losses through stress tests before support and guarantees are withdrawn. Staff support a recent advisory issued to banks to set aside more capital for substandard and other types of stressed loans in preparation for potentially rising insolvencies, as well as using a more degraded economic outlook in determining the appropriate level of provisioning. In line with the 2020 FSAP recommendation, stress testing would also help assess the policy trade-offs regarding the sequencing of the withdrawal of support policies. If corporate credit conditions suddenly tighten once again, the weight applied to corporate credit in loan-to-deposit ceiling limits could be reduced. Other policies may include keeping the loan maturity unchanged while distributing the deferred amount across remaining instalments or through a bullet payment at maturity.

Insolvency and corporate restructuring: Korea's Debtor Rehabilitation and Bankruptcy Act (DBRA) is one of the most well-developed insolvency frameworks. Further reforms could look to expand the role of the private sector in insolvencies, which is currently led by financial creditors and can slow resolution. Incentivizing deep pocketed capital market funds to buy into troubled firms would facilitate faster turnaround of distressed firms through restructure or merger while reducing systematic risks to banks and contingent liabilities for the sovereign. Finally, to cope with a potential rise in cases as temporary support programs taper off, the authorities should continue to promote out-of-court solutions under the Corporate Restructuring Promotion Act—which are not widely utilized, developing indicators for triage of SMEs and standardized options for their resolution, and adopt pending FSAP recommendations to clearly delineate duties of directors and bar ipso facto clauses in executory contracts in the DBRA.

Complimentary support policies. In parallel with the withdrawal of lending support, programs to help vulnerable households should be strengthened. Some households have been particularly affected by the pandemic and would likewise be disproportionately hit by a rapid policy withdrawal given the importance of SMEs for employment, particularly in more remote regions. Staff therefore welcome the authorities' decision to extend the period of support available under the individual vulnerable debtors' program till June 2022. The unemployment support and social safety net measures should be strengthened as part of a broader process to strengthen automatic stabilizers (see Section C).



^{1/} Prepared by Sohrab Rafiq.

A strong macroprudential framework can facilitate monetary policy to pursue its primary inflation targeting objective since it is more targeted and reduces the risk of unintended policy spillovers.⁹

24. Current stable and supportive financial conditions provide a window of opportunity to lift the short-selling ban for all listed securities. This would improve price discovery and re-sensitize and improve the ability of market participants to manage their risk-taking. Concerns about equitable access for all investors are more efficiently addressed through strengthening of sanctions for violations, stepping up monitoring, and enhancing the role of market-makers in providing opportunities for retail investors to participate in short-selling. Transparency could also be enhanced by requiring disclosure of short positions taken above a certain proportion of a company's total listed shares. Finally, the single stock futures market provides retail investors with the opportunity to engage in the short selling of equities.

Authorities' Views

25. The Bank of Korea is normalizing monetary policy by comprehensively taking into account growth, inflation and financial imbalances. It raised the base rate three times since August by a cumulative 75 basis points. The BoK views these rate hikes as reflecting current and expected solid growth, a prolonged period of inflation above the target, and accumulated financial imbalances. Moreover, given that robust growth and inflationary pressure are expected to last for some considerable time, and that risks from financial imbalance risks remain high, the BoK believes that monetary accommodation still needs to be appropriately adjusted. In doing so, the BoK will continue to assess any potential trade-offs between policy goals as a result of the reduction in monetary accommodation. Considering the still accommodative monetary policy and the possible increase in pent-up consumption due to accumulated spare household savings, the BoK believes that normalization of monetary policy is less likely to have a negative impact on consumption and growth. The BoK will continue to closely monitor upside and downside risks for the domestic growth and inflation, and whether the risk of financial imbalances is abating, before deciding on the timing of any further adjustment in monetary accommodation.

26. The authorities stressed their commitment to exchange rate flexibility and limiting FX intervention to preventing disorderly market conditions. The US dollar FX swap line with the Federal Reserve expired in at the end of 2021, and they don't see a need to renew it given stable US dollar funding conditions. FX prudential measures have contributed to market stability and they will continue to help in the monitoring and reviewing of policy settings as appropriate. In line with the 2020 FSAP recommendation there are plans to revise FX liquidity stress testing under the Basel III LCR framework.

⁹ Macroprudential policy may also help monetary policy by containing financial risk premia and helping lift the neutral interest rate, as well as by countering the buildup of financial excesses and reducing the probability of monetary policy hitting the effective lower bound (ELB) in the future. See Rafiq, S. (2021), 'What's in Korea's (R)-Stars', IMF Working Paper No. 21/93.

27. The authorities agree with staff on the need for additional support should downside risks materialize. The fiscal policy stance envisioned in the 2022 budget and supplementary budget is considered expansionary, since budgeted expenditure (including policy lending) are expected to increase at a faster pace than GDP. Therefore, the authorities' views are that fiscal policy will continue to support growth in 2022.

28. The authorities will take a case-by-case approach to rolling back lending support policies. The authorities are acutely aware that Covid-19 policy support measures might have delayed restructuring of unviable SME firms and that a rapid withdrawal in support measures may trigger a wave of bankruptcies, producing stress on household balance sheets. In their views, this requires striking a delicate balance between financial inclusion and minimizing the side effects of corporate deleveraging. The authorities intend to maintain close communication with stakeholders and expand debt counseling and restructuring tools so that firms can prepare in advance. They noted that banks have been issued advisories to add to their capital buffers and provisioning. The authorities have also continued to reform the insolvency system to give more firms the option of a statutory out-of-court framework bank-led restructuring mechanism, while increasing the debt threshold for filing of rehabilitation proceedings and individual rehabilitation proceedings to broaden SME access to the simplified insolvency process, as well as promoting post-commencement financing. Finally, capital market reforms are in the pipeline to give SMEs more financing options, including through increasing liquidity in the KONEX market.

B. Korea's Household Debt and Housing Vulnerabilities

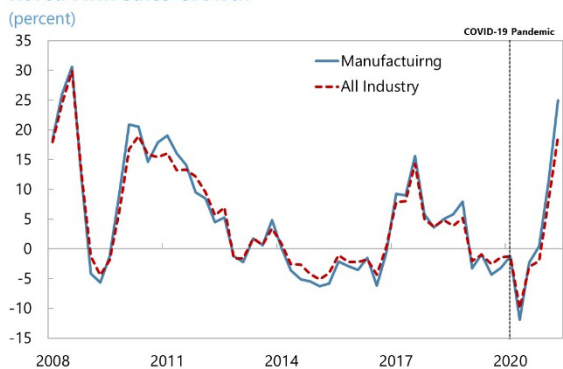
The pandemic magnified a chord of pre-COVID trends that included rising of already elevated household debt and rapid house price growth, raising macro-financial risks and social tension. These trends require coordinated policy action, including tightening of borrower-based macroprudential policies, raising real-estate taxes, and housing supply.

29. Real estate prices grew at an unprecedented rate during the pandemic, with the house price-to-income ratio at a multi-decadal high. Since the pandemic the confluence of a decline in mortgage rates, shifts in household formation, and longer-term structural factors linked to demography has fueled rapid growth in house prices. The strong real-estate demand surpassed new housing supply that has come on the market in recent years, particularly in Seoul. Historically low mortgage rates have fueled speculative behavior in the housing market, with house prices in the major cities now showing significant valuation pressures (Annex VIII and Figure 10). Prices have also significantly outpaced wages and widened inequality. House price growth is beginning to slow on the back of tighter prudential and monetary policies, but affordability will remain a concern going forward.

Figure 8. Corporate Performance Since COVID-19

Firms sales rebounded strongly in 2021...

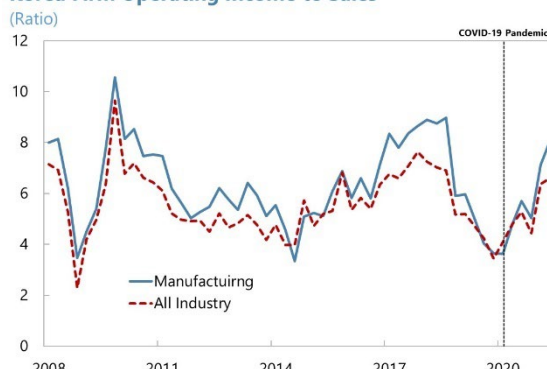
Korea Firm Sales Growth



Sources: Bank of Korea and IMF Staff Calculations

...pushing up firm operating margins.

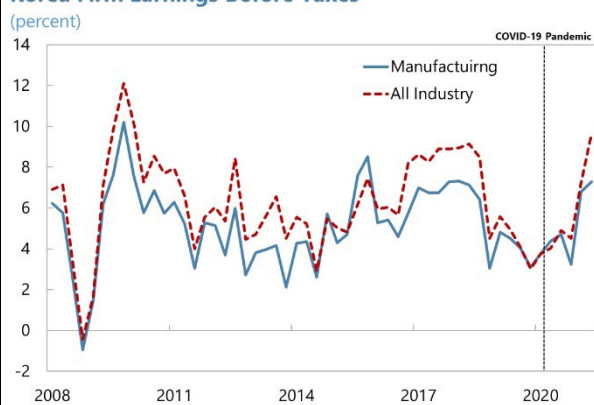
Korea Firm Operating Income to Sales



Sources: Bank of Korea and IMF Staff Calculations

...and profitability.

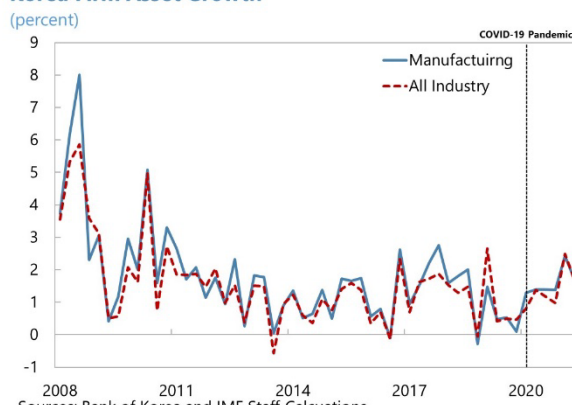
Korea Firm Earnings Before Taxes



Sources: Bank of Korea and IMF Staff Calculations

As a result growth in firm assets has been strong, which has helped support equity market valuations...

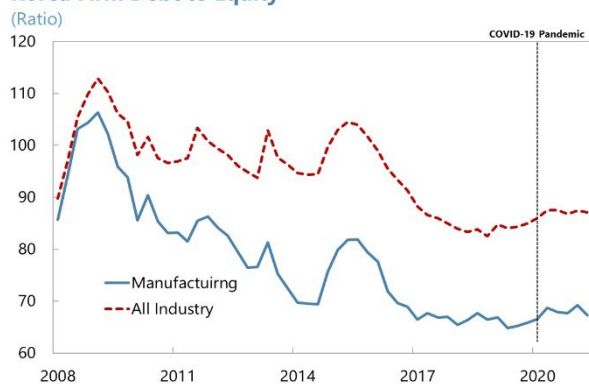
Korea Firm Asset Growth



Sources: Bank of Korea and IMF Staff Calculations

...which in turn has contained firm debt-to-equity ratios...

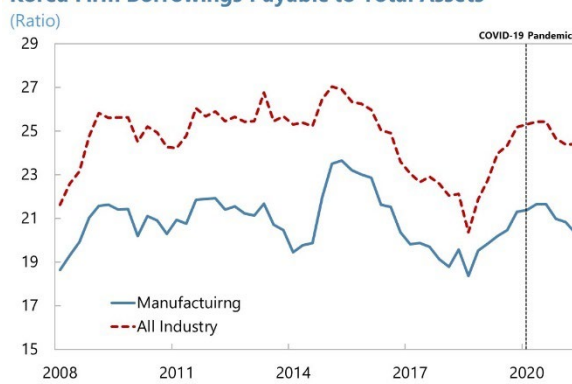
Korea Firm Debt to Equity



Sources: Bank of Korea and IMF Staff Calculations

...and increased balance sheet space that should help corporates deal with unexpected operation shocks.

Korea Firm Borrowings Payable to Total Assets

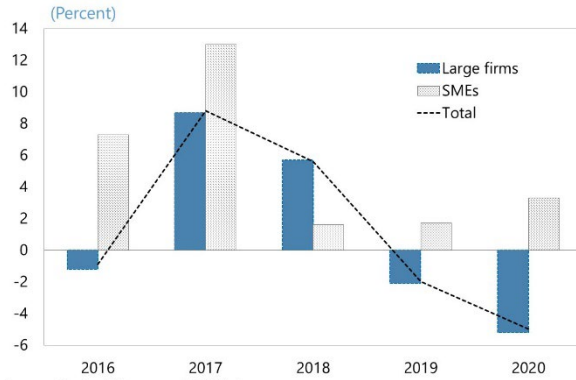


Sources: Bank of Korea and IMF Staff Calculations

Figure 9. Corporate Default Risks

In 2020 firm sales fell for large firms due to the global slowdown.

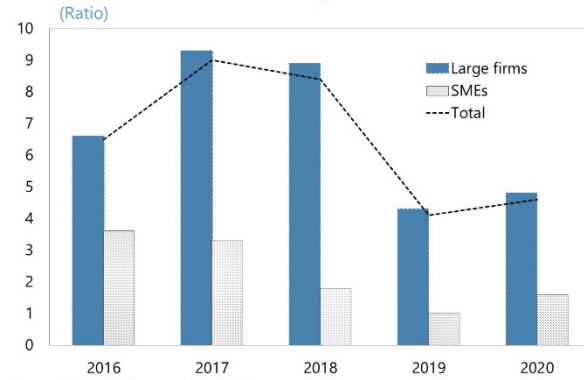
Korea Firm Sales Growth



Source: Bank of Korea and KIS-Value

However, pandemic-related spending and financial support helped firms maintain debt servicing capacity.

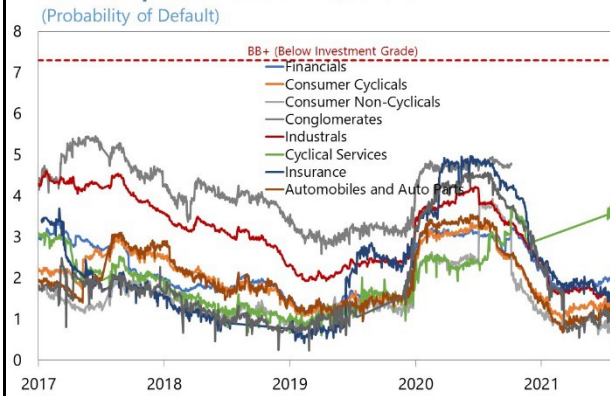
Korea Firm Interest Coverage



Source: Bank of Korea and KIS-Value

Korea corporate default risks have fallen back to their pre-COVID levels across most sectors.

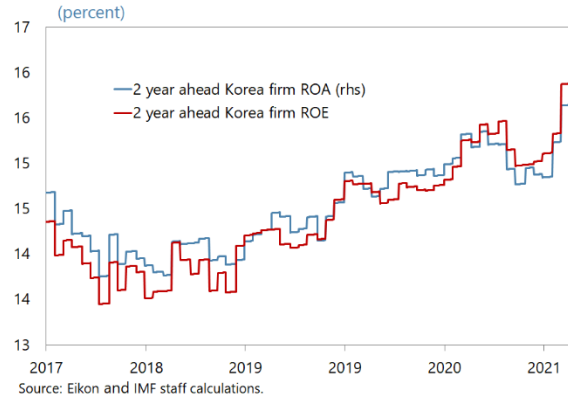
Korea Corporate Default Risk, A-rated



Source: Bloomberg and IMF staff calculations.

This is supported by market expectations of continued strong performance of firms in Korea.

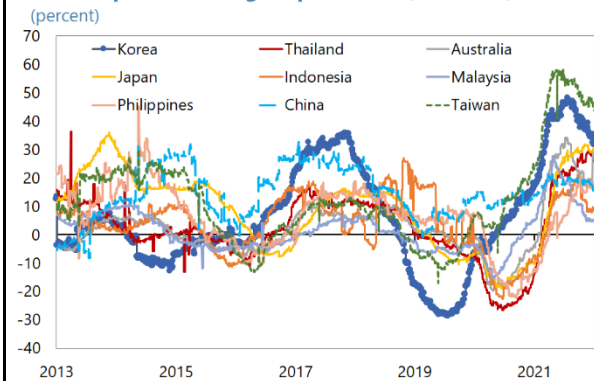
Korea Expected Firm Performance



Source: Eikon and IMF staff calculations.

Market expectations of Korean corporate earnings growth among the strongest in Asia.

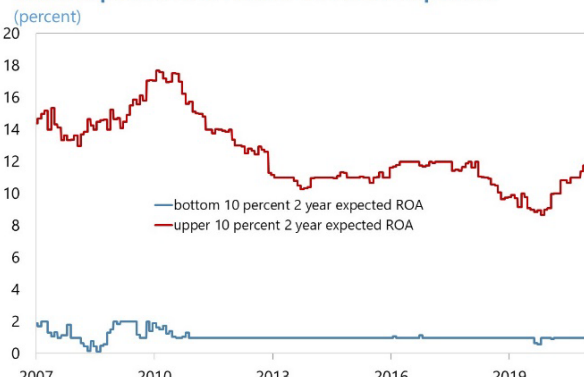
Asia Corporate Earnings Expectations (18-month)



Source: Bloomberg and IMF staff calculations.

Market expectations also project limited corporate scarring over the next two years.

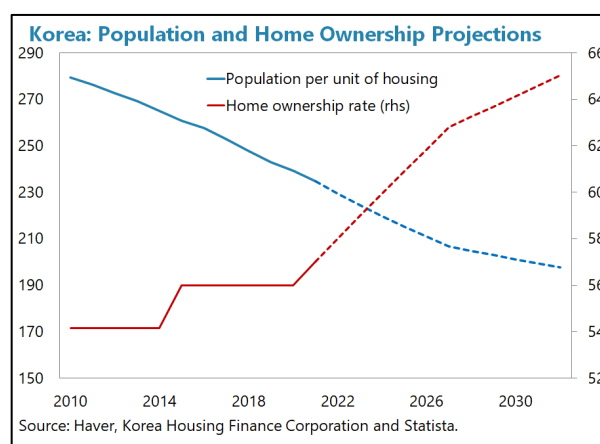
Korea Expected Firm Return-on-Asset Dispersion



Source: Eikon and IMF staff calculations.

30. While housing supply has expanded in recent years, it has been surpassed by strong housing demand since the pandemic. Housing supply has grown by 30 percent in Seoul over the last decade, but the home ownership ratio remains relatively unchanged and lower than peer countries. To continue improving supply and improve affordability, particularly in urban areas, a number of welcome measures have been introduced: the easing of brownfield density restrictions for redevelopment projects; a fast track one-stop review process for redevelopment projects; allowance of pre- pre-sale of new apartments to facilitate housing access to first-time buyers.¹⁰ Efforts are also underway to upgrade transportation links to greenbelt developments on the outskirts of Seoul. Over the medium term, the supply of new dwellings will need to consider Korea’s projected decline in population to avoid the potential risk of boom-bust cycles in the housing market.

31. Real-estate demand drove very strong growth in household debt during the pandemic, but vulnerabilities are mitigated. The tight borrower-based macroprudential stance has supported low NPLs and debt servicing ratios, and lending remains concentrated among high credit score individuals (Figure 11). Moreover, average LTVs are around 50 percent and household income is expected to remain stable which further contains balance sheet risks (Figure 12). FSAP and more recent Bank of Korea stress tests—applying a more severe economic shock than the pandemic downturn—showed that risks from household balance sheets are contained.



32. Some post-pandemic household lending developments may pose risks going forward. In contrast to pre-COVID trends, a larger share of new bank loan origination has been unsecured lending linked to floating interest rates, which is being used to top up lending and meet tight LTV requirements. There has also been strong growth in bullet loans, linked to the Jeonse market, which raises rollover risks. In turn, some subprime borrowers are resorting to non-banks to increase their financing. This suggests that borrower-based restrictions have been effective, but some mortgage prudential requirements can be circumvented. Moreover, while lending is concentrated among high credit score individuals, credit risks from the uplift in scores is susceptible to economy-wide credit cycles.¹¹

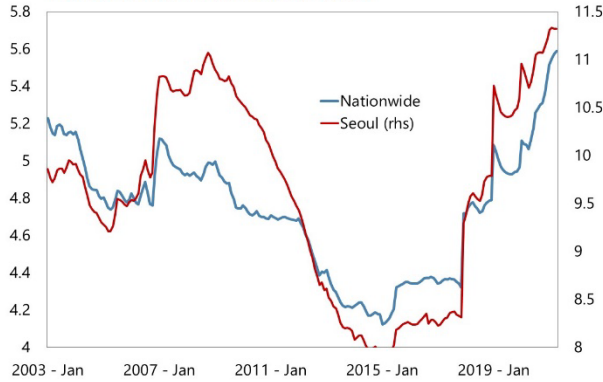
¹⁰ However, there is also anecdotal evidence that a house price cap—limiting prices of new pre-sale private sector apartments to 60-80 percent of the actual market price—and an excess capital gain ceiling that limits the capital return on redeveloped apartments, may be distorting incentives and hindering private housing supply.

¹¹ It is estimated that around 11.5 percent of all borrowers had their credit ratings upgraded since the pandemic because of buoyant asset markets.

Figure 10. House Price Valuation Pressures

The house price to income ratio, particularly in Seoul, is at a post-GFC high.

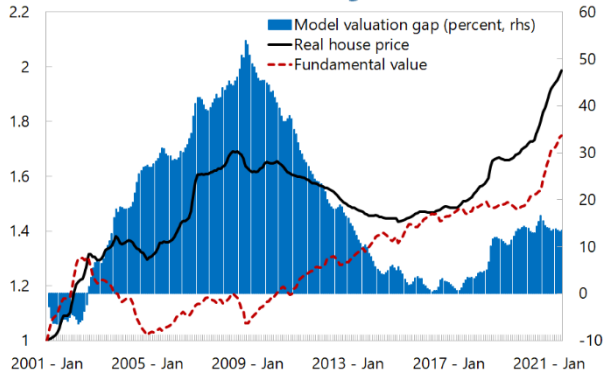
Korea House Price Income Ratio



Source: CEIC, Haver and IMF staff calculations.

House prices in Seoul are showing valuation pressures...

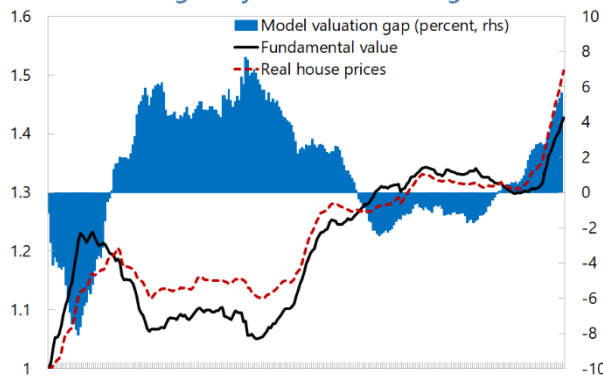
Seoul Real House Price Misalignment



Source: CEIC, Haver and IMF staff calculations.

...with this pattern spreading to other cities in Korea as prudential policies tighten in inner-Seoul.

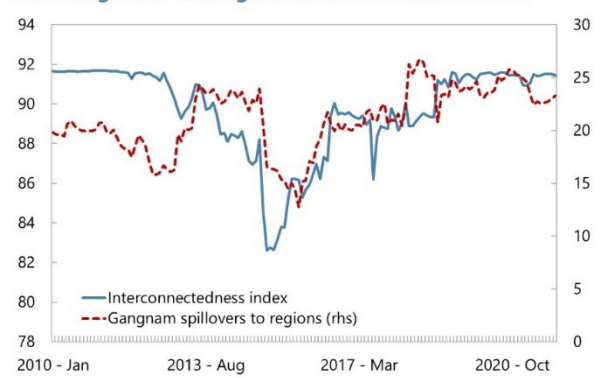
Outside Seoul Big 6 City House Price Misalignment



Source: IMF staff calculations.

As a result, regional housing markets in Korea have become increasingly intertwined.

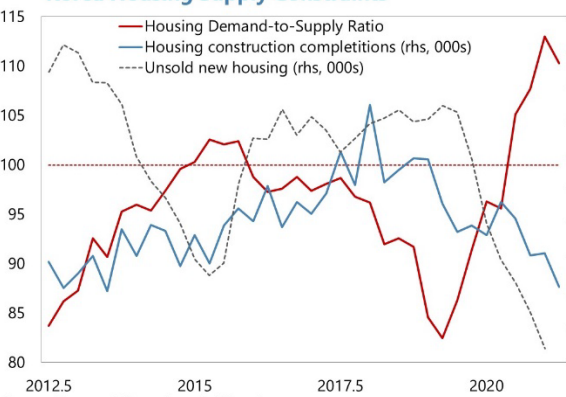
Korea Regional Housing Market Interconnectedness



Source: Haver and IMF staff calculations.

Housing price pressures also reflect a fall in housing inventory and strong demand.

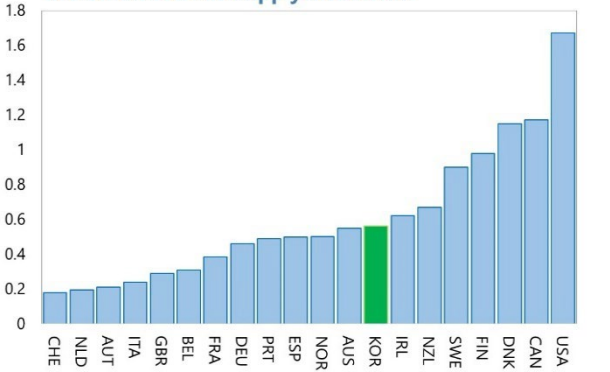
Korea Housing Supply Constraints



Source: Haver and Korea Appraisal Board

Korea housing supply is somewhat less sensitive to prices than the OECD average, particularly in Seoul.

OECD House Price Supply Elasticities

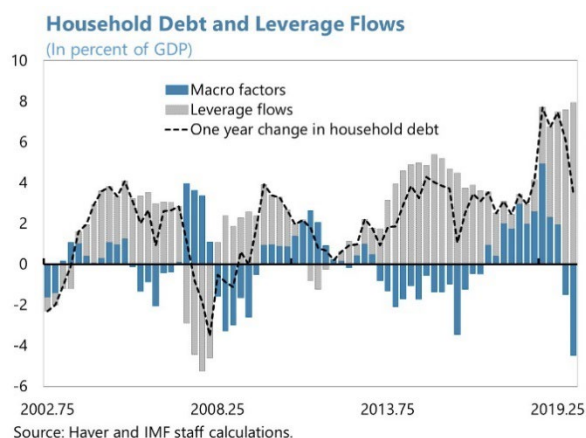
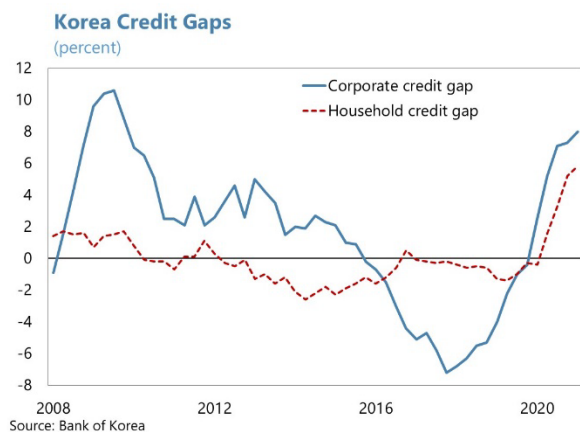


Source: IMF staff calculations and Geng, N. (2018), 'Fundamental Drives of House Prices in Advanced Economies, IMF Working Paper WP/18/164'

Figure 11. Household Debt Developments

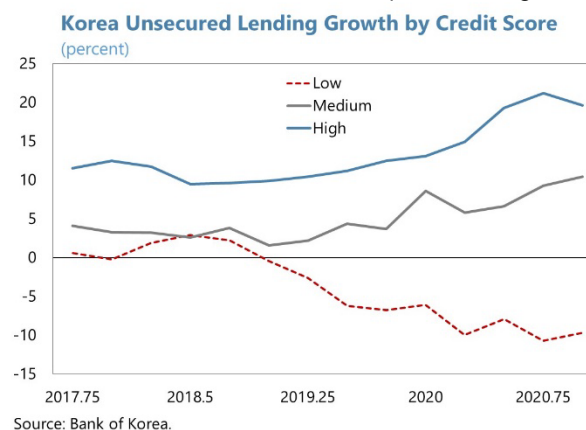
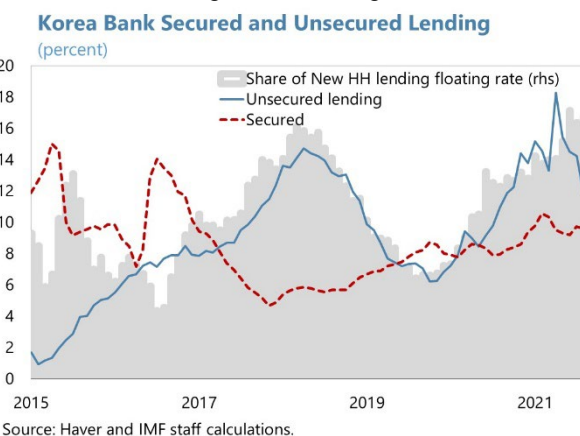
Credit gaps reached a post-GFC high during the pandemic.

The rise in the household leverage ratio during the pandemic has been driven by strong risk appetite.



The growth in lending has been driven [in part?] by unsecured borrowing and at floating interest rates.

However, unsecured lending has been driven by high credit score borrowers with little subprime lending.



Household loans to high credit borrowers have risen, consistent with higher assets prices lifting scores.

Bank lending risk premia across sectors remains compressed despite the recent rate hike.

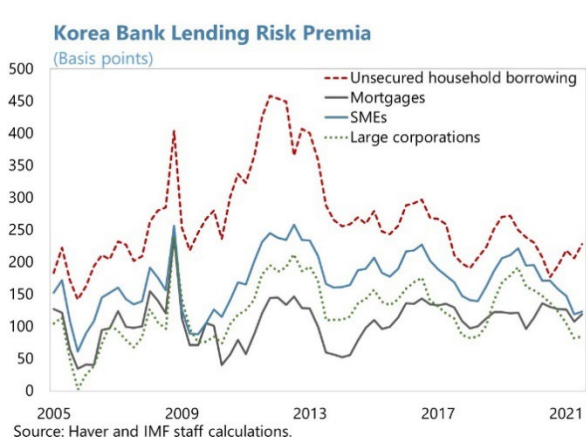
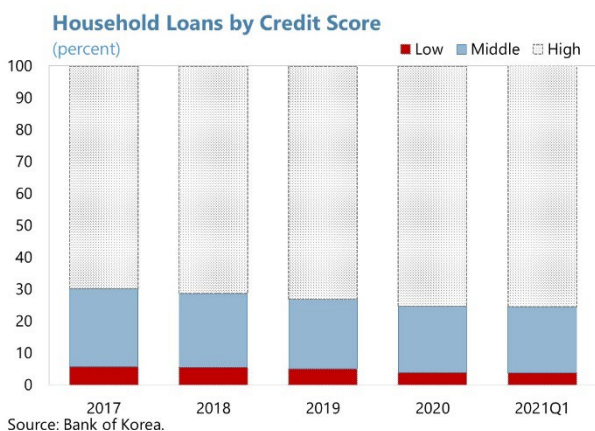


Figure 12. Household Balance Sheet Delinquency Risks

The rise in house prices has bolstered household balance sheet strength.

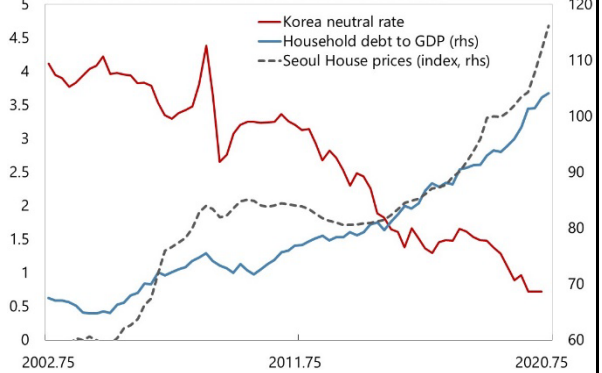
Korea Household Resilience Index



Source: IMF staff calculations.
Note: Resilience index then equals the total-assets ratio less twice the debt ratio

Household debt has mirrored the rise in house prices and fall in Korea's neutral interest rate.

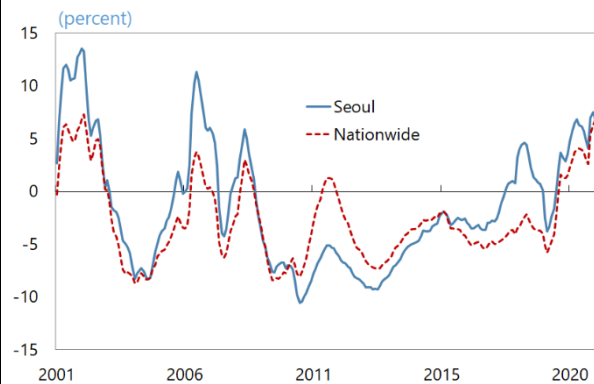
Korea Household Debt and Interest Rates



Source: BIS, Haver and IMF staff calculations.

However, it has widened wealth inequality with household asset returns growing more than income.

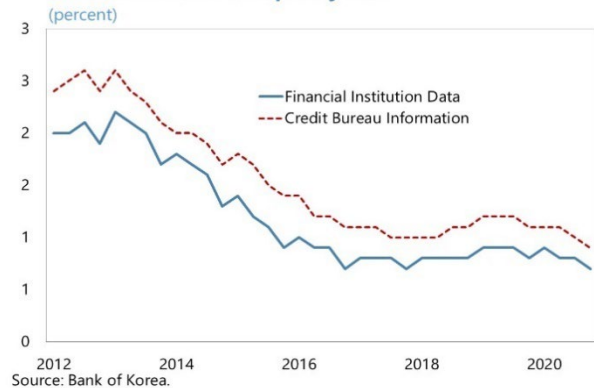
Korea Real House Price Return (percent)



Source: IMF staff calculations.
Note: Returns based on subtracting inflation and real GDP growth.

Delinquency rates across financial institutions have remained low, aided by low debt servicing costs.

Korea Household Delinquency Rate (percent)

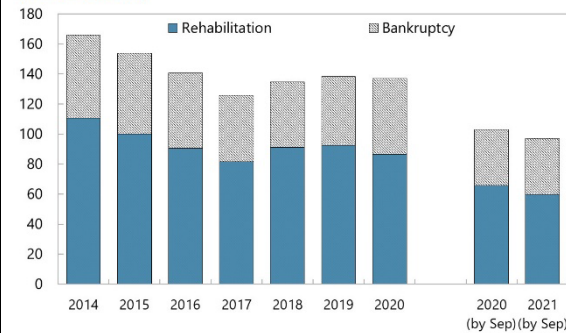


Source: Bank of Korea.

This is reflected in insolvency filings being below their pre-COVID level.

Korea Court Insolvency Filing: Individual

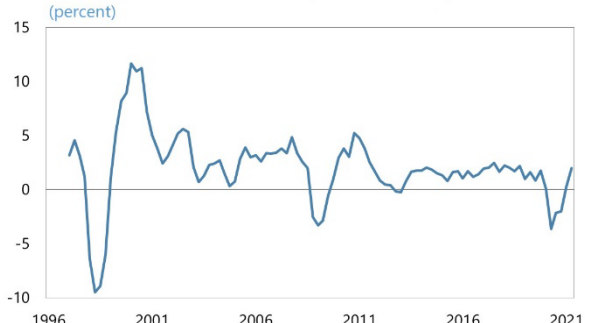
(In thousand cases)



Source: Court of Korea

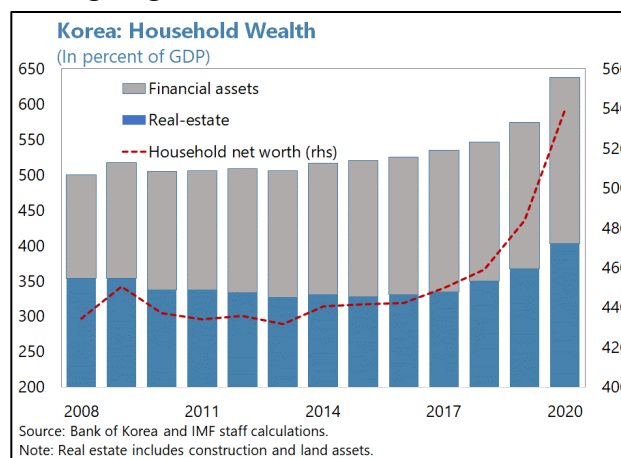
Household income has not deviated significantly from HH projections, helping contain debt default risks

Household Real Income Expectations Gap (percent)



Source: Consensus forecast, Haver and IMF staff calculations.
Note: The actual realization against expectations of income made two years previously.

33. Household assets are concentrated in real-estate and closely intertwined with demographic challenges, which may also pose risks going forward. Korean households tend to self-insure for retirement by accumulating real-estate over their life cycle; the equity of which could be withdrawn in the reverse mortgage market.¹² Therefore, unlike in other advanced economies, engagement with the credit market does not decline with age.¹³ These risks could be further exacerbated in the future by the rapid demographic transition in Korea.¹⁴ On both the assets (via real estate investment) and liabilities side (via Jeonse deposit), Korea household balance sheets are significantly exposed to real estate price fluctuations when compared to other advanced economies.¹⁵



Policy Package to Contain Vulnerabilities

34. Given rising risks, housing and household debt vulnerabilities need to be closely managed. With due consideration on financial inclusion, a broad package of policies could help reduce financial risks from housing and household debt:

- *Macprudential policies.* Borrower-based prudential measures have been effective and recent measures, including the individual based DSR ceiling, are welcomed.¹⁶ However, some prudential requirements on mortgage are being circumvented. Additional measures may be required, as recommended in the 2020 FSAP, including: (i) a sectoral counter cyclical capital buffer (sCCyB) to ensure banking sector resilience; (ii) introducing a stressed DSR ratio to moderate borrowing risk in the event there is a snapback in lending rates; (iii) formalizing the unsecured debt-to-annual

¹² Korea has one of the highest pensioner poverty rates in the OECD, linked to a shallow social safety net and weak pension system.

¹³ See Korea FSAP 2020.

¹⁴ As society ages a larger share of household debt will be held with retirees, but in Korea a large portion of their income is less secure and stable compared to other advanced economies.

¹⁵ Pre-COVID approximately 50 percent of household debt-at-risk—defined as debt held by a household that is unable to finance consumption and debt servicing from disposable income—was headed by an individual above or close to the official retirement age of 55. These factors also raise the probability of larger forced sell offs during a stress scenario that could trigger more abrupt real estate price adjustments. See Republic of Korea: Financial Sector Assessment Program-Technical Note-Non-Financial Balance Sheet Vulnerabilities and Risks to Financial Stability: <https://www.imf.org/en/Publications/CR/Issues/2020/09/18/Republicof-Korea-Financial-Sector-Assessment-Program-Technical-Note-Non-Financial-Balance-49750>.

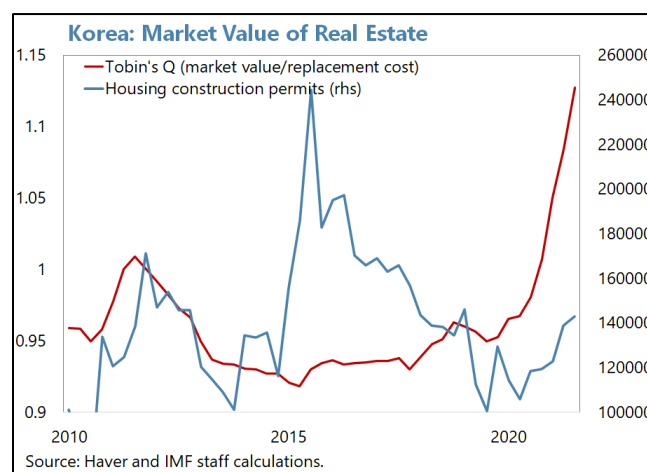
¹⁶ See “Evolution of Macprudential Policies in Korea”, in Republic of Korea: Selected Issues, IMF Country Report No. 19/133, which examined the impact of individual macroprudential policies on Korean house prices and found adjustments in the LTV ratio and stamp duty to be particularly effective. In particular, the impact of prudential policies is likely to be greater in Seoul as the city contains more than half of Korea’s entire housing stock by value, the real estate price per square foot is highest and households are most leveraged, and there is a significant supply shortage.

income ratio ceiling that is currently a supervisory recommendation for both banks and non-banks, (iv) incentivizing banks to lower the share of new unsecured floating rate lending via higher risk weights applied to unsecured loans.¹⁷ The authorities should also review remaining gaps in lending-related regulations between banks and non-banks (e.g., DSR ceilings and loan-to-deposit ratio prudential requirements) to avoid individuals borrowing from multiple institutions to circumvent mortgage prudential requirements.

- *Tax policies:* Tax measures implemented to contain housing demand include raising the Comprehensive Real Estate Holding Tax (CRET) for multiple-home owners and a transfer tax on short-term capital gain. The effectiveness of these measures should continue to be assessed against housing market outcomes. The higher CRET likely helped to expand supply by raising the holding costs for multiple-home owners, which could be broadened and raised to foster increased supply. However, the capital gains tax hike on multiple-home owners, while designed to reduce speculative demand, may have also reduced existing-housing supply, at least in the short term, by disincentivizing multiple-home owners from selling real-estate and should be reassessed as experience on its effectiveness is gained.
- *Housing supply.* Current market valuations provide strong incentives for private sector developers to expand the supply of dwellings.

However, private sector incentives are distorted by the regulatory and tax treatment of real estate, including price caps on new pre-construction apartment sales and excess capital gains on redevelopment projects, which should be reviewed to increase private housing supply.¹⁸ Moreover, further efforts should be made to accelerate the process of repurposing commercial land to residential usage in urban areas through encouraging greater coordination

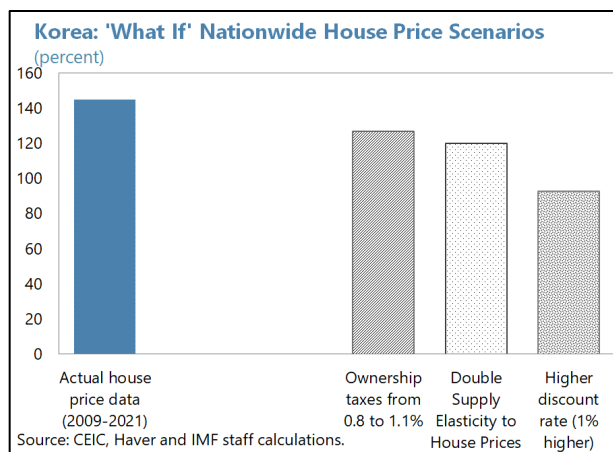
between governmental agencies and local councils. In this regard, the setting up of a public-private task force composed of the Ministry of Land and Infrastructure, local governments, and industry is welcome.



¹⁷ See "Republic of Korea: Financial Sector Assessment Program-Technical Note-Macroprudential Policy Frameworks and Tools."

¹⁸ The current market value of real estate is higher than its replacement cost—a Tobin's q greater than 1— signaling strong incentives for private sector developers.

35. A combination of housing supply measures and higher property taxes would help contain housing prices over the medium-term. Staff analysis suggests that reforms that increase the elasticity of the supply of housing and higher property taxes would result in lower nationwide house prices (with the impact likely to be greater in Seoul).¹⁹ A combined policy package, together with the normalization of monetary policy conditions, would strengthen the effectiveness of these measures to reduce the growth of housing prices over the medium-term.



Authorities' Views

36. The authorities view the rise in household debt and house prices as the single biggest non-COVID related risk facing the economy. In line with staff assessment, the authorities see the rapid growth in house prices since the pandemic caused by a combination of factors, including historical low interest rates, which fueled ample liquidity and search for yield, excess demand in the housing market due partly to shifts in household formation and to the resulting heightened expectations of housing price appreciation. To moderate house prices and improve affordability the authorities see three areas that need to be tackled including (i) increasing housing supply, (ii) managing excess liquidity that rotates to the real-estate sector and (iii) rooting out of speculative activities. The authorities see signs of stabilization in the housing market following the recent tightening in monetary and macroprudential policies and will wait for further developments before deciding whether further macroprudential tightening is required. The authorities are also aware of the risk to financial inclusion and intergenerational equity from further tightening borrower-based macroprudential policies.

37. The authorities view raising housing supply, particularly in Seoul, as an important step in making housing more affordable. The government announced a '30-80 plus' project that aims to increase housing supply by 300 thousand homes in Seoul and 800 thousand homes nationwide over the next decade. While focusing on easing of building codes to accelerate the overall housing supply, the government will first increase the supply of office-tel apartments, which can be built more speedily due to a less onerous building code. The government will also directly purchase 35 thousand new development properties in Greater Seoul that will be repurposed as rental housing for lower income households. Reforms have also focused on increasing private sector engagement by raising the cap on loans to finance housing projects. The authorities are also reviewing stronger financial support for small and mid-sized construction companies by alleviating construction prerequisites for project financing loan guarantees. The authorities do not share staff's view that the

¹⁹ See Rafiq, S (2021), 'House as Assets: Korea House Price (Mis)Alignment', IMF Working Paper, forthcoming.

capital gains tax hike may have reduced housing supply, as the number of housing units for sale began to rise in September 2021 after a temporary decline since June.

38. The authorities deem the pre-sale apartment price and excess gain caps as necessary to maintain house price affordability. The authorities view the price cap as stabilizing house prices for actual buyers. Increasing the ceiling of pre-sale apartment prices would fuel inflation in existing apartments in the surrounding area. The excess gain cap is required to ensure that the gains of private sector led redevelopment contribute to the public good.

C. Transitioning to a Post-COVID Normal: Promoting Inclusive Growth and Job Creation

As the pandemic abates, policy focus should shift from economic support to structural reform priorities, including in the context of the Korean New Deal (KND). Renewed structural reform momentum, including further articulation and implementation of the KND, will be important in transitioning to a post-COVID normal. Reinvigorating long-term growth and fostering inclusion requires recalibrating policies to support productivity growth and innovation, providing transitory support amidst reforms to address product, services, and labor market rigidities, and ensuring that Korea's human capital remains a central pillar of the transformation process. In this context, fiscal policy should be anchored in a medium-term fiscal framework that stabilizes the path of public debt post-pandemic, considering the expected fiscal implications of demographics, structural transformation costs, and the need to retain space for countercyclical fiscal policy when necessary.

39. Given medium-term fiscal pressures from structural transformation needs and demographics, a rules-based fiscal framework would help anchor public finances and preserve space for countercyclical fiscal policy. A fiscal rule should be introduced and operationalized as the exit from the pandemic takes hold, which should also help strengthen public financial management by safeguarding budgetary independence and enhancing fiscal transparency. The ongoing policy debate is welcome and should help improve the parametric, operational, and institutional aspects of the fiscal framework.²⁰ Scope for counter-cyclical fiscal policy should be preserved which would need to specify and clarify operational details, including of the 'slowdown provision'.²¹

40. In the context of adopting the new rules-based fiscal framework, consideration should be given to how automatic stabilizers could be strengthened. Korea's automatic stabilizers are currently less effective compared to most OECD economies, due to weaker social protection programs. Strengthening automatic stabilizers would make the fiscal response to economic fluctuations more targeted, timely, and temporary. This would reduce the need for discretionary fiscal policy interventions, buffer the short-term impact of structural reforms, and lower the risk of

²⁰ A proposed fiscal rule with ceilings of 3 percent of GDP for fiscal deficit and of 60 percent of GDP for government debt was submitted to the parliament in October 2020. Discussion of the rule, including potential revision of these parameters, is ongoing.

²¹ The debt and deficit limits could be "soft" limits as discussed in the 2020 Selected Issues Paper "Fiscal Rules in Korea—Some Considerations."

monetary policy hitting the effective lower bound (ELB) during a severe downturn. The expansion of unemployment insurance in recent years is welcome, and consideration should be given to further strengthening such programs going forward, including by building on progress made in broadening and making permanent the safety net measures introduced during the pandemic. Strengthening automatic stabilizers should be considered as part of the broader architecture of the new fiscal framework.

41. Financing KND spending priorities and coping with the projected costs from aging will require a medium-term consolidation strategy. Korea's public debt, while still low by advanced economy standards, has grown substantially since 2019 owing to pandemic-related discretionary spending. However, even as the pandemic wanes, public debt is projected to grow at a faster pace in the medium and long term relative to pre-COVID trends due to higher discretionary spending, including on the KND, and the fiscal costs of demographics, including rising pension spending. General government debt is projected to rise to 60 percent of GDP by 2027 from less than 50 percent at present. Stabilizing public debt will require a phased fiscal consolidation strategy anchored on rationalizing spending and mobilizing revenues over the medium term. On expenditures, the budget plans to start rationalizing discretionary spending (as the pandemic abates), increase efficiency, and strength expenditure management are welcome steps that should continue over the medium term. On the revenue side, given the low tax burden by OECD standards, options for revenue mobilization could include:

- *Broadening the tax base.* Personal income tax yields are low by international comparison due to significant tax deductions, and the costs and benefits of such deductions should be reassessed. Tax expenditures on industry, including SMEs, should be reviewed and, if necessary, streamlined.
- *Expanding VAT.* The scope of VAT exemptions should be reviewed and rationalized. Depending on the comprehensiveness of base-broadening measures, it may still be necessary to raise some tax rates, notably the VAT rate which is relatively low at 10 percent.

42. Pension reform is needed to strengthen the system given Korea's rapid demographic shifts. Pension reforms are required given the coming rise in the ratio of retirees-to-workers. Currently, contribution rates are not commensurate with benefits, and the relatively low level of pension benefits is a driver of Korea's relatively high old-age poverty rate. Taking early steps to address these long-term challenges would ease the transition relative to making a sharper adjustment later. Priority should be given to ensuring that the pension system is on an actuarially sound footing. Increases in pension coverage and generosity should be balanced with appropriate adjustments in contribution rates and the retirement age commensurate with longer life expectancy.²² In addition, in line with the 2020 FSAP recommendation, reforms could also include the development of pension and contractual savings products by introducing multi-employer pension schemes and building further capacity for oversight of pension funds market. Strengthening pension benefits would also reduce over time the need to over rely on real estate assets to self-insurance for retirement.

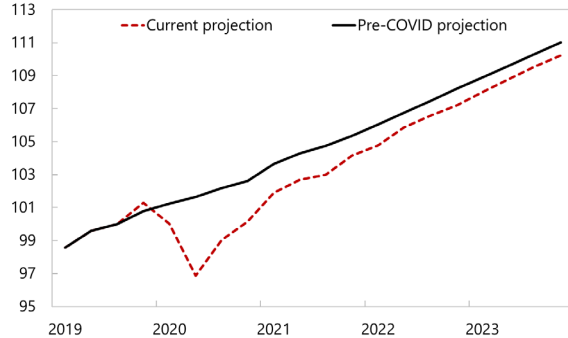
²² See Guo, Si. (2020), "Parametric Pension Reforms in Korea".

Figure 13. Structural Issues

The strong recovery has returned output to near its pre-COVID path, indicating limited scarring.

Real GDP Forecast Vintages

(Index, Q3-2019=100)

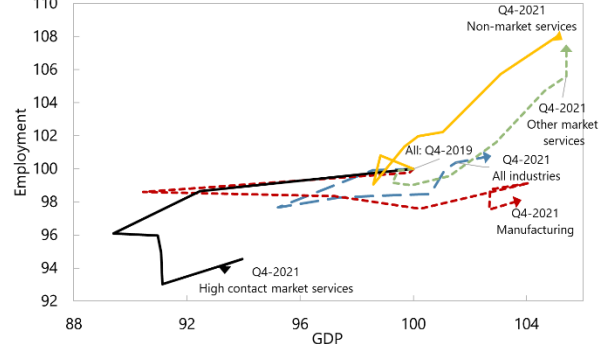


Sources: Bank of Korea; and IMF staff calculations.

However, jobs and activity in contact-intensive service sectors remain well below previous levels.

Employment and GDP by Industry Groups

(Index, Q4-2019=100)

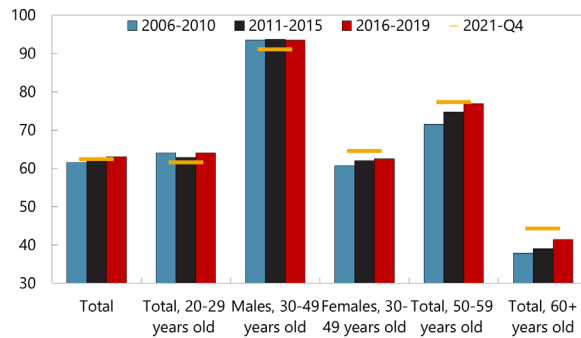


Sources: Haver Analytics; and IMF Staff Calculations.

While generally resilient, labor force participation has lagged among youths and prime-age males.

Labor Force Participation Rate

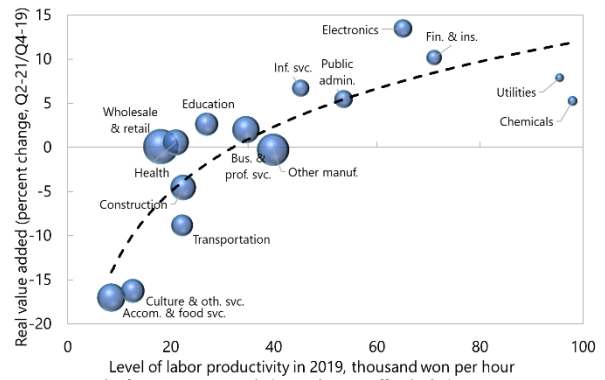
(In percent of population)



Source: Haver Analytics; and IMF staff calculations

The pandemic led to shifts in demand and production toward sectors with relatively higher productivity...

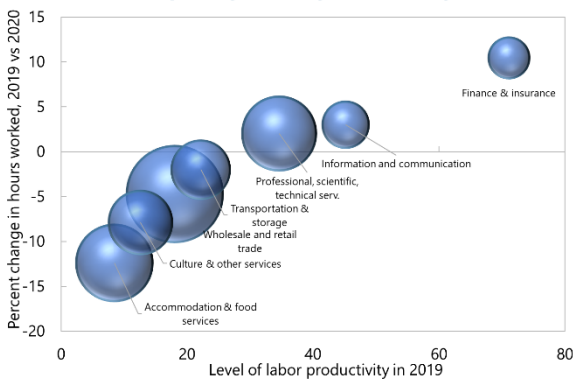
COVID Shock Impact by Industry Productivity Level



Sources: Bank of Korea; Haver Analytics; and IMF Staff Calculations.

...especially within service industries provided on a commercial basis.

COVID Shock Impact by Industry Productivity Level

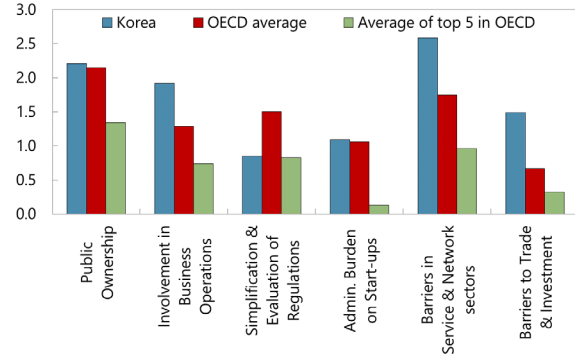


Sources: Bank of Korea; Haver Analytics; and IMF Staff Calculations.

More flexible product and labor markets and a lower regulatory burden would help capitalize on these shifts.

Product Market Regulation

(Scale of 0-3; higher is more restrictive)



Source: OECD.

43. Greater access to the reverse mortgage market could help alleviate old-age poverty.

Recent measures to raise the number of subscribers, including lowering the minimum age and expanding property eligibility by allowing office-tels (apartments in office buildings) to be used as collateral is welcome. Regulations allowing greater flexibility in monthly drawdown options should allow for greater payments at the early stages of subscription to help with unforeseen circumstances. Pressing ahead with plans to raise the property value ceiling would encourage further participation. Efforts should also be made to allow non-bank financial institutions to offer reverse mortgages and expand the market.

Product and Labor Market Reforms**44. The pandemic triggered or accelerated shifts in demand and business practices.**

Demand has shifted from high-contact industries such as accommodation and food services and wholesale and retail trade, toward professional services and higher-skilled manufacturing, as reflected in levels of employment, hours worked, wages, and job vacancy rates (Figure 13). The pandemic has also been accompanied by a rise in automation and digitalization in industries as diverse as food services, retail sales, and financial services. Though many workplaces continued functioning at high capacity through most of the pandemic, remote work has risen in professional services. These developments have buffered the impact of the pandemic and led to higher productivity but could further polarize employment and aggravate inequality; Korea's youth inactivity rate is exceptionally high. Boosting medium-term inclusive growth depends on more durable increases in labor force participation, particularly for females, and service sector productivity (Box 3).

45. Adapting to these trends will require advancing long-standing reform priorities to facilitate structural transformation. The KND is helping Korea adapt to post-COVID trends by catalyzing investment in new growth drivers and helping reskill the labor force to match the new demands for skills (Figure 13). Advancing on other pending reforms is also necessary to help ease longstanding bottlenecks to service sector productivity, spur innovation and investment, facilitate the reallocation of resources across sectors, and ensure creation of high-quality, sustainable employment opportunities:

- *Boosting innovation and productivity growth:* Welcome efforts have been made to facilitate innovation through regulatory sandboxes and partnerships with the private sector to develop dynamic new drivers of growth. Recent steps to streamline regulations should also continue. Additional areas for attention include lowering legal barriers to entry and startup costs, simplifying complex licensing and permit requirements, adjusting regulations that inhibit the expansion of or raise costs for small and medium enterprises, and increasing the flexibility of employment regulations.²³

²³ See Swiston, A. (2021), 'Korea's Growth Prospects: Overcoming Demographics and COVID-19', WP/21/92.

Box 3. Closing Gender Gaps in the Labor Market Post-COVID^{1/}

While making good progress, Korea still has one of the largest gender gaps among OECD countries, which was further exacerbated by the pandemic.

Staff estimate that the pandemic’s impact on women’s employment is almost double that of men. Women were disproportionately impacted because (i) their employment is concentrated in high contact service sectors, and (ii) a significantly higher proportion of females has non-regular labor contracts. Due to the rigidity of regular worker contracts and less protection of non-regular workers, they are more vulnerable to shocks.

The authorities strengthened multifaceted support to help women’s employment.

To promote recovery caused by the pandemic, supplementary budgets have been provided to enterprises to incentivize employing women and retaining them. Support for companies to provide family care leave and flexible work arrangements have also been introduced. Meanwhile, employment centers and the Saeil Center continue to provide reemployment services and training tailored to women.

In the medium term, advancing gender priorities in labor force reform would boost the post-pandemic labor market recovery.

Previous staff analytical work estimated that if the labor force participation gender gap were to close by 2035, Korea’s real GDP could be boosted by more than 7 percent.^{2/} In Korea, more women drop out of the labor force in their 30s compared to other OECD countries, resulting in an M-shaped employment curve. The authorities can consider tackling this issue by strengthening two dimensions

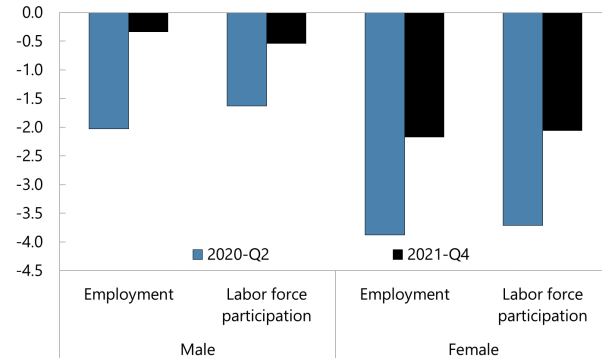
- **Retention:** Lowering family care burdens for women through provision of increased childcare support, promoting shared parental and family care leave, and reducing overall work hours are needed to improve retention during child-rearing years.

- **Re-deployment:** Developing more proactive re-deployment schemes, career transition assistance and up-skill training specifically targeted to the needs of this group and tailoring to a broader range of sectors and positions.

A more flexible work environment and better work-life balance would also encourage women to return to the job market.

Korea: COVID-19 Labor Market Impact by Gender

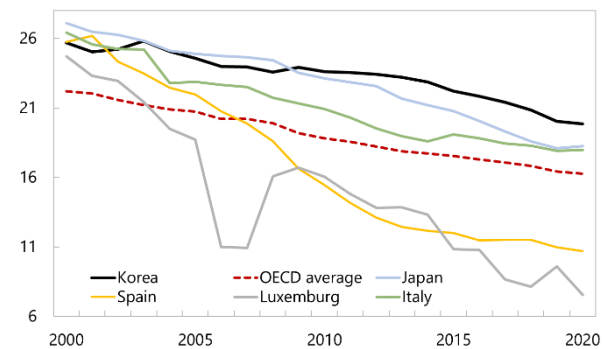
(In percent difference from 2015-19 trend)



Sources: Haver Analytics; and IMF staff calculations

Labor Force Participation Gender Gap

(In percent, labor force participation rate of men - women)



Sources: OECD; IMF staff calculations.

1/ Prepared by Stella Tam.

2/ Korea 2019 Article IV Staff Report.

- *Labor markets:* Labor market policies should emphasize sustainable private sector employment opportunities over direct government short-term hires by focusing on training and reskilling workers in danger of being left behind and setting sound incentives for labor force participation. The human capital pillar added to the KND is a welcome step, rightly involving close cooperation with the private sector in training and job creation, which is necessary to help address the rising demand for skilled labor. Similarly, there is a need for increased flexibility of the higher education system to pivot its offerings to better match graduates with new and growing occupations. For the fast-growing segment of platform workers, a balance should be sought to preserve flexibility while ensuring fair working conditions. Given the progress made in broadening the employment safety net, the economic recovery represents an opportune moment to push ahead with the longstanding need to increase the flexibility of regular employment contracts, which over time will contribute to reducing labor market duality and income inequality²⁴.
- *Increasing female labor participation:* Progress has been made on expanding childcare leave, reducing working hours for expecting women, encouraging shared childcare burden between spouses, and providing employment services tailored to women.²⁵ Given sizable remaining gender gaps, continued efforts in these areas are needed to further boost female employment rates, improve work-life balance, and facilitate the re-entry of women to the job market after periods of caring for family.

Authorities' Views

46. The authorities concur with staff on the need to strengthen automatic stabilizers while simultaneously undertaking medium-term fiscal consolidation efforts anchored on a rules-based fiscal framework. To ensure public debt remains sustainable they also stressed the importance of raising spending efficiency and improving expenditure management and underscored that revenue measures, such as a VAT rate hike, must be supported by a social consensus. The authorities also recognize the need for reforms to ensure long-term sustainability of the pension system but stress that any reform would have to be predicated also on public consultation and support.

47. The authorities believe implementation of the KND and other labor market initiatives will help develop dynamic growth drivers while helping address remaining inequities.

Implementation of the KND was on track and was seen as helping to deliver substantial investment and employment in dynamic areas such as artificial intelligence, biotechnology, and green energy. They agreed on the importance of further reforms to the broader regulatory environment, emphasizing progress made under regulatory sandboxes. They shared staff's concerns about potential labor market scarring, especially for youth, and were committed to continued efforts to

²⁴ Staff analysis shows that labor market duality in Korea, which encompasses various types of non-regular workers, is particularly prominent among SMEs and in the service sector and disproportionately affects women, the elderly and youth. At a macro level, duality has contributed to increasing inequality. The three pillars of Korea's 'flexicurity' approach can help address both duality and inequality, and also raise productivity. See Schauer, J. (2018), 'Labor Market Duality in Korea', IMF Working Paper WP/18/126.

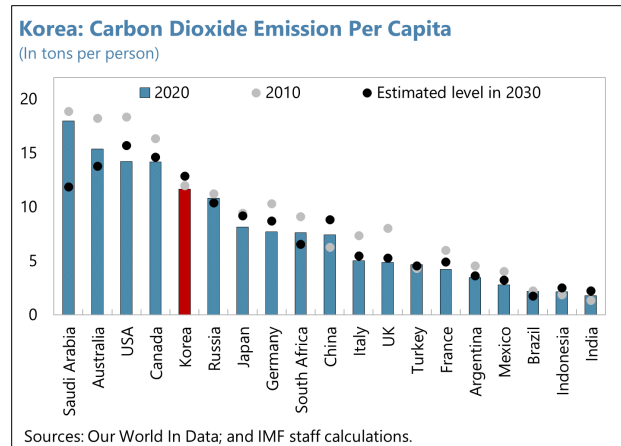
²⁵ See also Schauer, J. (2018).

bolster training, job creation, and the safety net with a focus on groups where employment prospects were lagging. The authorities believe given the ongoing pandemic it is necessary to put priority on increased stability for the time being but agreed on the need to strike a balance between stability and flexibility.

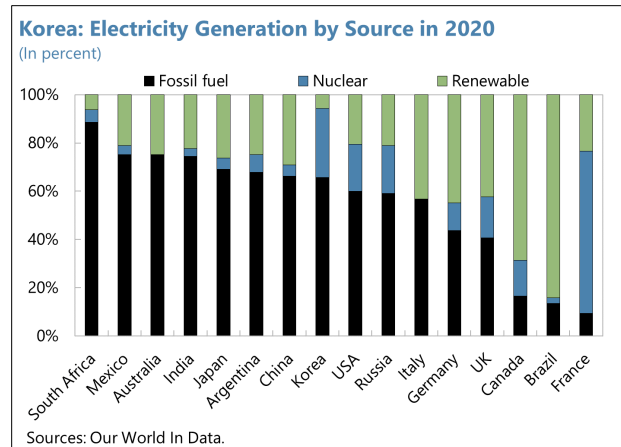
D. Korea’s Climate Policies

48. Korea is among the largest greenhouse gas emitters on a per capita basis. Fossil fuels are primarily used in power generation, industry, construction, transportation, and buildings. Renewable sources only accounted for 5.7 percent of total energy consumption in 2020, significantly lower than other major economies.

49. Korea has committed to ambitious carbon reduction goals. Its recently updated Nationally Determined Contribution (NDC) target to reduce emissions by 40 percent from its 2018 level by 2030 is welcome and better aligned with the established goal of achieving carbon neutrality by 2050.



50. A key instrument to achieve its targets is an emissions trading system. Korea established its Emission Trading Scheme (KETS) in 2015. KETS is a cap-and-trade system that applies to 685 large emitters and covers about three quarters of domestic emissions. Other climate mitigation policies adopted include the Renewable Portfolio Standard, a regulatory mandate that requires power generators to increase the use of renewable sources to 10 percent by 2022; tightened vehicle emission standards for passenger vehicles and light trucks; and a heavy excise on the use of fossil fuels, especially coal. As part of the Green New Deal (GND), Korea set aside US\$ 62 billion to invest in green projects, including building green infrastructures, planting new trees, developing clean technologies, and incubating green innovations.



51. To meet Korea’s climate mitigation objectives, current climate policies would need to be significantly strengthened. Some policy options that could be considered include:²⁶

²⁶ See I. Parry, “Fiscal Policies for Reinforcing Korea’s Climate Mitigation Strategy” SM/21/22.

- Aligning emissions caps in Korea's Emissions Trading Scheme (ETS) with the 2030 mitigation target and underpinning the ETS with a robust and rising price floor and transitioning to fully auctioned allowances.
- Reinforcing carbon pricing with a revenue-neutral sliding scale of feebates in emission-intensive sectors, to strengthen decarbonization incentives without imposing fiscal costs or heavier tax burdens on consumers or firms.
- Increasing and expanding the coal tax, which is only applied to coal in power generation. Full coal phaseout will require additional policies such as feed-in tariffs and complementary public investments.

Authorities' Views

52. The authorities appreciate the support and the options recommended by staff. They noted that they are in the process to carefully consider possible options to achieve their ambitious emission goals at this point.

STAFF APPRAISAL

53. Korea has recovered impressively from the COVID-19 pandemic, which is a testament to its strong economic fundamentals and the authorities' able policy responses. Activity has surpassed pre-covid levels despite multiple waves of COVID infections. Given Korea's relatively advanced cyclical recovery but heightened global uncertainties, the policy challenges include: (i) in the near-term, balancing the appropriate pace of policy normalization against heightened global risks, while containing the buildup of risks from housing and household debt; and (ii) as the pandemic abates, shifting the policy focus to structural reform priorities to reinvigorate potential growth and foster greater inclusion.

54. Continuing with monetary policy normalization remains appropriate, but if downside risks materialize monetary policy may face some tradeoffs if stagflationary conditions arise. The pace of monetary policy normalization has been appropriate and going forward should continue to weigh the strength of the recovery against rising inflationary risks. If downside risks materialize, conventional monetary policy has moderate space for stimulus but could face some tradeoffs if supply disruptions create stagflationary conditions. Enhancing communications to provide greater guidance on monetary policy will help further anchor expectations and alleviate potential tradeoffs.

55. A broadly neutral fiscal stance in 2022 would support policy normalization, but fiscal policy should provide prompt stimulus if downside risks materialize. Fiscal policy is envisaged to be broadly neutral in 2022, which is appropriate at the current juncture. However, if downside risks materialize, additional fiscal support should be deployed given Korea's ample fiscal space. In this context, the authorities' readiness to provide support to affected sectors is welcome and should ensure that going forward it is further targeted to affected segments as warranted, which would be particularly relevant if stagflationary pressures arise.

- 56. The withdrawal of lending support policies should be carefully calibrated to reduce risks of sudden tightening of credit conditions, particularly for SMEs.** The authorities' careful approach to winding down lending policies has been appropriate. To avoid an abrupt tightening in credit conditions, particularly for SMEs and small merchants, lending support should be continued until the recovery has broadened but finetuned to further focus policies on viable firms.
- 57. The financial system has remained resilient, backed by a strong prudential framework, but further tightening of macroprudential measures may be needed to contain risks from housing and household debt.** The very rapid growth in household debt and house prices is beginning to slow thanks to the appropriate adoption of borrower-based prudential measures and tighter monetary conditions. Macroprudential policies, particularly borrower-based measures, may need to be tightened further to contain the buildup of risks from housing and household debt.
- 58. Addressing affordability in the housing market would require further housing supply and demand policies.** In addition to macroprudential policy, further measures associated with faster repurposing of land and with the taxation of real estate could reinforce the authorities' efforts to increase the supply of dwellings, particularly for lower income households.
- 59. As the pandemic abates, undertaking key structural reforms will be critical to complement the KND's efforts to shift to a more digital, high-tech, and green economy.** The KND's new human capital pillar is welcome to help address the rising demand for skilled labor. Welcome steps have been made to increase female labor force participation, while further efforts are needed to close remaining gender gaps. Advancing on pending structural reform priorities is needed to broaden the safety net and increase flexibility of regular contracts, and to address longstanding bottlenecks, including to services sector productivity.
- 60. Given fiscal pressures from demographics and structural reform needs, a rules-based fiscal framework should help anchor public finances, preserve countercyclical fiscal space, and strengthen automatic stabilizers.** The authorities' proposed fiscal rule is welcome and should further specify the key parametric, operational, and institutional aspects of the framework. The framework should also help strengthen public financial management by safeguarding budgetary independence and enhancing fiscal transparency. Scope for counter-cyclical fiscal policy should be preserved, including by defining the operational details. Consideration should also be given to how automatic stabilizers could be strengthened. The expansion of unemployment insurance is welcome and further strengthening of the safety net could build on progress made during the pandemic.
- 61. Financing KND spending priorities and coping with projected costs of aging will require a medium-term consolidation strategy within the fiscal framework.** Even as the pandemic wanes, public debt is projected to continue increasing over the medium term due to KND, pensions and aging-related spending pressures. Stabilizing public debt will require a phased fiscal consolidation strategy anchored on rationalizing spending and mobilizing revenues, given Korea's low tax burden, including by broadening the tax base and raising some rates.

62. Pension reform is needed to strengthen the system given Korea's rapid demographic shifts. The low contribution rates have contributed to an actuarial imbalance, even as low pension benefits have contributed to high old-age poverty. Early steps to address these challenges would ease the transition costs. Priority should be given to place the pension system on an actuarially sound footing. Greater pension coverage and generosity should be balanced with appropriate adjustments in contribution rates and in retirement age commensurate with longer life expectancy.

63. Korea's new NDC target to reduce emissions by 2030 is welcomed and better aligned with achieving carbon neutrality by 2050. To reach these goals, current climate policies need to be reinforced, including further strengthening Korea's Emissions Trading Scheme (ETS) and broadening the scope of carbon pricing.

64. It is recommended that the next Article IV consultation be held on the standard 12-month cycle.

Table 1. Korea: Selected Economic Indicators, 2019-2027

	Estimates			Projections					
	2019	2020	2021	2022	2023	2024	2025	2026	2027
Real GDP (percent change)	2.2	-0.9	4.0	3.0	2.8	2.5	2.4	2.3	2.3
Total domestic demand	1.5	-1.5	3.3	3.4	2.7	2.4	2.2	2.2	2.1
Final domestic demand	1.5	-0.9	3.6	3.1	2.7	2.4	2.2	2.2	2.2
Consumption	3.2	-2.4	4.1	3.7	2.8	2.4	2.3	2.3	2.2
Gross fixed investment	-2.1	2.6	2.5	1.8	2.4	2.2	2.1	2.0	2.0
Stock building 1/	0.0	-0.6	-0.3	0.0	0.0	0.0	0.0	0.0	0.0
Net foreign balance 1/	0.8	0.5	0.7	0.0	0.3	0.2	0.3	0.3	0.3
Potential output	2.6	1.3	2.4	2.2	2.3	2.4	2.4	2.3	2.3
Output gap (percent of potential GDP)	-0.7	-2.8	-1.3	-0.5	0.0	0.0	0.0	0.0	0.0
Saving and investment (in percent of GDP)									
Gross national saving	34.8	36.2	37.0	36.8	36.6	36.4	36.3	36.0	35.6
Gross domestic investment	31.5	31.9	32.1	32.4	32.1	31.9	31.8	31.5	31.3
Current account balance	3.6	4.6	4.9	4.3	4.5	4.4	4.5	4.4	4.3
Prices (percent change)									
CPI inflation (end of period)	0.7	0.6	3.7	2.5	2.0	2.0	2.0	2.0	2.0
CPI inflation (average)	0.4	0.5	2.5	3.1	2.1	2.0	2.0	2.0	2.0
Core inflation (average)	0.7	0.4	1.4	...	...	...	...	...	...
GDP deflator	-0.8	1.3	2.8	3.2	2.0	1.5	1.8	1.8	1.9
Real effective exchange rate	-4.5	-1.9	0.1	...	...	...	...	...	...
Consolidated central government (in percent of GDP)									
Revenue	22.9	23.0	25.5	24.5	24.0	24.0	23.9	24.0	23.9
Expenditure	22.6	25.2	26.2	25.7	25.0	25.1	25.1	25.1	25.1
Net lending (+) / borrowing (-)	0.4	-2.2	-0.6	-1.2	-0.9	-1.1	-1.1	-1.1	-1.1
Overall balance	-0.6	-3.7	-2.0	-2.0	-1.8	-1.9	-2.0	-1.9	-2.0
Excluding Social Security Funds	-2.8	-5.8	-4.0	-4.0	-3.7	-3.8	-3.7	-3.7	-3.6
Cyclically-adjusted balance	0.5	-1.5	-0.3	-1.1	-0.9	-1.1	-1.1	-1.1	-1.1
General government debt	42.1	48.9	49.6	51.1	52.6	54.6	56.3	58.0	59.5
Money and credit (end of period)									
Overnight call rate	1.4	0.6	1.4	...	...	...	...	...	...
Three-year AA- corporate bond yield	1.9	2.2	2.4	...	...	...	...	...	...
Credit growth	9.0	9.1	11.0	6.6	5.8	4.9	4.6	4.4	4.3
Balance of payments and external balance sheet (in billions of U.S. dollars)									
Exports, f.o.b.	556.7	517.9	650.0	721.5	759.3	789.0	826.1	863.7	903.2
Imports, f.o.b.	476.9	437.3	573.8	648.5	669.2	693.9	721.9	749.8	780.7
Current account balance	59.7	75.9	88.3	80.3	87.6	90.4	96.3	98.4	99.6
Export volumes (percent change)	-1.1	-0.5	9.8	6.3	3.9	3.7	3.6	3.5	3.5
Import volumes (percent change)	-2.5	-0.1	11.8	7.7	3.9	3.7	3.4	3.3	3.3
Gross international reserves 2/									
Level, end of period	404.0	438.3	458.3	482.3	501.2	521.6	538.0	556.9	572.4
In percent of short-term debt									
(residual maturity)	206.3	191.6	206.8	211.7	214.5	215.8	215.6	216.4	216.4
Total external debt (in percent of GDP)	28.5	33.3	35.1	38.0	38.7	39.4	39.7	40.1	40.4

Sources: National sources; and IMF staff estimates and projections.

1/ Contribution to GDP growth.

2/ Excludes gold. Includes 2021 general SDR allocation.

Table 2. Korea: Balance of Payments, 2019-2027
(In billions of U.S. Dollars, unless otherwise indicated, BPM6 sign)

	Estimates			Projections					
	2019	2020	2021	2022	2023	2024	2025	2026	2027
Current account balance	59.7	75.9	88.3	80.3	87.6	90.4	96.3	98.4	99.6
Goods balance	79.8	80.6	76.2	73.1	90.1	95.1	104.2	113.8	122.5
Exports	556.7	517.9	650.0	721.5	759.3	789.0	826.1	863.7	903.2
Imports	476.9	437.3	573.8	648.5	669.2	693.9	721.9	749.8	780.7
Services balance	-26.8	-14.7	-3.1	-9.9	-18.9	-23.7	-27.8	-30.9	-31.2
Primary income	12.9	13.5	19.3	21.3	20.7	23.2	24.5	20.1	12.8
Secondary income	-6.1	-3.5	-4.1	-4.2	-4.3	-4.4	-4.6	-4.6	-4.6
Capital account balance	-0.2	-0.4	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Financial account balance 1/	57.6	64.0	62.4	64.1	74.9	76.6	85.2	85.7	89.1
Portfolio investment	42.4	41.7	19.6	16.2	27.9	38.3	43.4	44.6	44.6
Direct investment	25.6	26.1	44.0	40.1	43.5	46.5	49.9	53.7	53.7
Financial derivatives	6.2	4.9	0.0	9.0	10.8	-0.3	0.1	-2.2	-3.7
Other investment	-16.7	-8.7	-1.2	-1.1	-7.2	-7.9	-8.2	-10.3	-5.5
Net errors and omissions	-0.5	5.9	-11.4	0.0	0.0	0.0	0.0	0.0	0.0
Reserves and related items	1.5	17.4	14.4	16.0	12.6	13.6	11.0	12.6	10.4
	(In percent of GDP)								
Current account balance	3.6	4.6	4.9	4.3	4.5	4.4	4.5	4.4	4.3
Goods balance	4.8	4.9	4.2	4.0	4.6	4.7	4.9	5.1	5.3
Services balance	-1.6	-0.9	-0.2	-0.5	-1.0	-1.2	-1.3	-1.4	-1.3
Primary income	0.8	0.8	1.1	1.2	1.1	1.1	1.2	0.9	0.6
Secondary income	-0.4	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Capital account balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial account balance 1/	3.5	3.9	3.5	3.5	3.8	3.8	4.0	3.9	3.8
Portfolio investment	2.6	2.5	1.1	0.9	1.4	1.9	2.0	2.0	1.9
Direct investment	1.6	1.6	2.4	2.2	2.2	2.3	2.3	2.4	2.3
Financial derivatives	0.4	0.3	0.0	0.5	0.6	0.0	0.0	-0.1	-0.2
Other investment	-1.0	-0.5	-0.1	-0.1	-0.4	-0.4	-0.4	-0.5	-0.2
Net errors and omissions	0.0	0.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0
Reserves and related items	0.1	1.1	0.8	0.9	0.6	0.7	0.5	0.6	0.4
Memorandum items:									
Gross reserves 2/ (in months of imports of goods and services)	404.0	438.3	458.3	482.3	501.2	521.6	538.0	556.9	572.4
External debt (in percent of GDP)	8.0	9.7	7.9	7.3	7.3	7.3	7.2	7.2	7.1
Short-term external debt (inc. trade credits)	470.7	544.9	634.2	702.0	754.4	801.8	844.9	890.5	934.4
	28.5	33.3	35.1	38.0	38.7	39.4	39.7	40.1	40.4
	135.5	159.3	168.3	174.5	180.4	188.4	196.2	204.1	211.3

Sources: National sources; and IMF staff estimates and projections.
1/ Excludes reserves and related items.
2/ Excludes gold. Includes 2021 general SDR allocation.

Table 3. Korea: Statement of Central Government Operations, 2019-2027

	2019	Estimates			Projections				
		2020	2021	2022	2023	2024	2025	2026	2027
(In trillions of won)									
Revenue	441.1	443.7	528.0	537.1	553.9	575.0	598.5	624.6	649.9
Tax revenue	293.5	285.5	343.4	349.9	358.6	371.8	386.6	403.8	419.7
Social contributions	80.5	80.8	89.6	96.1	100.9	104.9	109.4	114.0	118.8
<i>Of which:</i> Social security contributions	69.6	74.6	79.2	85.0	89.2	92.7	96.7	100.8	105.1
Other revenue	67.2	77.4	95.0	91.0	94.5	98.2	102.5	106.8	111.3
Expenditure	434.0	487.0	541.1	563.6	575.4	601.2	626.5	652.8	680.6
Expense	407.9	476.9	509.9	530.8	543.5	569.6	595.2	621.8	649.9
Net acquisition of nonfinancial assets	26.1	10.1	31.3	32.8	31.8	31.6	31.3	31.0	30.7
Net lending (+) / borrowing (-)	7.2	-43.3	-13.2	-26.5	-21.5	-26.2	-28.0	-28.2	-30.7
Policy lending	19.2	27.8	27.7	18.1	19.4	20.3	21.1	22.0	23.0
Overall balance 1/	-12.0	-71.2	-40.9	-44.6	-40.9	-46.5	-49.2	-50.2	-53.7
Less: Social Security Fund (SSF) balance	42.4	40.8	42.5	44.2	44.0	43.9	44.4	44.8	45.3
Managed balance (overall balance excl. SSF)	-54.4	-112.0	-83.4	-88.8	-84.9	-90.4	-93.6	-95.1	-98.9
(In percent of GDP)									
Revenue	22.9	23.0	25.5	24.5	24.0	24.0	23.9	24.0	23.9
Tax revenue	15.3	14.8	16.6	15.9	15.6	15.5	15.5	15.5	15.5
Social contributions	4.2	4.2	4.3	4.4	4.4	4.4	4.4	4.4	4.4
<i>Of which:</i> Social security contributions	3.6	3.9	3.8	3.9	3.9	3.9	3.9	3.9	3.9
Other revenue	3.5	4.0	4.6	4.1	4.1	4.1	4.1	4.1	4.1
Expenditure	22.6	25.2	26.2	25.7	25.0	25.1	25.1	25.1	25.1
Expense	21.2	24.7	24.7	24.2	23.6	23.8	23.8	23.9	23.9
Net acquisition of nonfinancial assets	1.4	0.5	1.5	1.5	1.4	1.3	1.3	1.2	1.1
Net lending (+) / borrowing (-)	0.4	-2.2	-0.6	-1.2	-0.9	-1.1	-1.1	-1.1	-1.1
Policy lending	1.0	1.4	1.3	0.8	0.8	0.8	0.8	0.8	0.8
Overall balance	-0.6	-3.7	-2.0	-2.0	-1.8	-1.9	-2.0	-1.9	-2.0
Less: Social Security Fund balance	2.2	2.1	2.1	2.0	1.9	1.8	1.8	1.7	1.7
Managed balance (overall balance excl. SSF)	-2.8	-5.8	-4.0	-4.0	-3.7	-3.8	-3.7	-3.7	-3.6
(In percent of GDP)									
Memorandum items:									
Primary balance	-0.1	-2.7	-1.0	-1.5	-1.1	-1.2	-1.2	-1.1	-1.0
Cyclically adjusted balance	0.5	-1.5	-0.3	-1.1	-0.9	-1.1	-1.1	-1.1	-1.1
Cyclically adjusted primary balance 2/	-1.4	-4.2	-3.7	-3.8	-3.4	-3.3	-3.3	-3.1	-3.1
Central government debt	36.3	42.4	43.6	45.1	46.6	48.6	50.3	52.0	53.5
General government debt	42.1	48.9	49.6	51.1	52.6	54.6	56.3	58.0	59.5

Sources: Ministry of Economy and Finance; and IMF staff estimates and projections.

1/ Overall balance is equal to net lending/borrowing minus policy lending.

2/ Excluding housing-related tax revenue.

Table 4. Korea: Financial Soundness Indicators, 2017-2021

	2017	2018	2019	2020	2021 1/
Capital to assets	7.9	7.9	7.7	7.5	7.6
Regulatory capital to risk-weighted assets	15.2	15.4	15.3	16.5	17.1
Regulatory Tier 1 capital to risk-weighted assets	13.8	14.0	14.0	15.1	15.5
Non-performing loans net of provisions to capital	1.5	1.2	1.1	1.1	0.9
Non-performing loans to total gross loans	0.4	0.3	0.3	0.2	0.2
Return on assets	0.7	0.8	0.7	0.6	1.0
Return on equity	6.6	7.2	6.8	6.5	9.7
Interest margin to gross income	58.7	65.1	62.4	60.4	65.4
Non-interest expenses to gross income	65.6	63.2	65.4	63.4	50.5
Liquid assets to total assets (liquid asset ratio)	29.7	31.0	32.1	30.4	31.9
Liquid assets to short term liabilities	101.2	114.5	110.0	102.2	105.1
FX dominated loans to total loans	10.9	10.9	11.0	10.5	10.8
Net open position in foreign exchange to capital	-1.0	0.0	0.1	0.0	0.5

Source: National authorities and IMF FSI database
1/ 2021-Q2.

Annex I. External Sector Assessment

<p>Overall Assessment: On a preliminary basis and adjusting for transitory factors, the external position in 2021 is assessed to be broadly in line with fundamentals and desirable policies. This assessment is subject to uncertainty related to the impact of the COVID-19 pandemic and the lack of full-year data for 2021. A final assessment will be provided in the 2022 External Sector Report. The current account (CA) surplus in 2021 is projected to have widened, primarily due to a narrowing of the service sector deficit and a favorable income balance. However, the surplus is projected to narrow slightly over the medium term as domestic demand recovers and transitory factors related to the COVID-19 shock recede.</p> <p>Potential Policy Responses: To support activity following the COVID-19 outbreak, the authorities have deployed fiscal and monetary stimulus, of which a substantial part is expected to be temporary. Ensuring that the external position remains in line with medium-term fundamentals will require structural policies that would stimulate investment and facilitate rebalancing of the economy toward services and other new growth drivers. Desirable reforms include reducing barriers to firm entry and investment, deregulating the nonmanufacturing sector, and strengthening the social safety net to lessen the need for precautionary saving. Reforms in some of these areas are contained in the authorities' Korean New Deal, to be implemented over the next few years. The exchange rate should remain market determined, with intervention limited to preventing disorderly market conditions.</p>							
<p>Foreign Asset and Liability Position and Trajectory</p>	<p>Background. The NIIP has been positive since 2014. Data for 2021 imply that, in 2020, Korea's NIIP was 35.3 percent of GDP, with gross liabilities at 84.3 percent of GDP, of which about 40 percent was gross external debt. The NIIP increased by about 10 percent of GDP from the 2020 level, largely reflecting the increase of resident's overseas portfolio investment. The NIIP is projected to rise to about 53 percent of GDP in the medium term on the back of CA surpluses and search-for-yield activity by financial institutions driven by asset accumulation for old-age consumption.</p> <p>Assessment. The positive NIIP is a source of external sustainability. Foreign asset holdings are diversified, with about 39 percent held in equity or debt securities. About 60 percent of foreign assets are denominated in US dollars, implying won depreciation could have positive valuation effects. The structure of liabilities limits vulnerabilities, with equity and direct investment accounting for about 60 percent of total liabilities.</p>						
2021 (% GDP)	NIIP: 35.3	Gross Assets: 119.6	Debt Assets: 59.7	Gross Liab.: 84.3	Debt Liab.: 34.8		
<p>Current Account</p>	<p>Background. The CA surplus in 2021 was 4.9 percent of GDP, driven by robust tech exports, a narrowing of the services deficit due to an increase in transportation exports, and an improvement in the primary income balance. The CA surplus has been trending down from the peak of 7.2 percent of GDP in 2015, reflecting a fall in savings, particularly for the household sector, and increase in the investment-to-GDP ratio. Over the medium term, the CA surplus is projected to narrow to 4.3 percent of GDP as semiconductor prices stabilize and the service sector balance normalizes.</p> <p>Assessment. The EBA model estimates the cyclically adjusted CA at 5.3 percent of GDP. The CA norm is estimated at 3.7 percent of GDP, with a standard error of 0.9 percent of GDP. After accounting for transitory factors arising from the ongoing COVID-19 shock (mainly in the transportation sector, travel services and the shift in household consumption composition from services to goods), the IMF staff estimates the 2021 CA gap midpoint at 0.6 percent of GDP. The contribution of the relative policy gap has narrowed to 0.4 percent of GDP, from 1.5 percent of GDP in 2020, which mainly reflects large exceptional fiscal stimulus in the rest of the world relative to Korea.</p>						
2021 (% GDP)	CA: 4.9	Cycl. Adj. CA: 5.3	EBA Norm: 3.7	EBA Gap: 1.5	COVID-19 Adj.: -0.88	Other Adj.: 0.0	Staff Gap: 0.6
<p>Real Exchange Rate</p>	<p>Background. Following sustained appreciation during 2015–18, the REER depreciated in 2019 by about 4.3 percent, with the REER returning to its 2015 level. Despite brief appreciation in the second half of 2020, the average REER for 2020 depreciated by about 2 percent relative to the 2019 average. The average REER for 2021 has remained stable compared to the 2020 average.</p> <p>Assessment. The IMF staff CA gap implies a REER undervaluation of 2.7 percent (applying an estimated elasticity of 0.22). The EBA REER index model estimates a REER undervaluation of 1.6 percent, while the REER level model estimates a 10.4 percent undervaluation. The IMF staff uses the estimated CA gap for its assessment, given the better fit of the EBA CA model. Consistent with the IMF staff CA gap, the IMF staff assesses the REER gap to be undervalued in the range of -1.4 to 6.8 percent, with a midpoint of 2.7 percent.</p>						
<p>Capital and Financial Accounts: Flows and Policy Measures</p>	<p>Background. Net FDI and portfolio outflows have declined since 2017, when outflows reached 4.6 percent of GDP. Portfolio outflows were 1.1 percent of GDP in 2021, reflecting further portfolio diversification and institutional investors' continued search for yield, partly being offset by nonresident debt inflow. Net FDI and portfolio outflows comprised the bulk of the 2021 financial account (2.4 and 1.1 percent of GDP, respectively), whereas other investments (net) recorded inflows (0.1 percent of GDP).</p> <p>Assessment. The present configuration of net and gross capital flows appears sustainable over the medium term. In recent years, including in the context of the COVID-19 shock, Korea has demonstrated ample capacity to absorb short-term capital flow volatility.</p>						
<p>FX Intervention and Reserves Level</p>	<p>Background. Korea has a floating exchange rate. As of the end of 2021, reserves stood at 25 percent of GDP, largely reflecting legacy accumulation. FX intervention data released by the Bank of Korea shows net sales of US\$7.2 billion (0.4 percent of GDP) through Q3 of 2021, concentrated in Q3, to limit excess exchange rate volatility. With an increase in investment returns, gross reserves rose by US\$20 billion (1.1 percent of GDP) year-to-date.</p> <p>Assessment. Intervention has been limited to preventing disorderly market conditions. As of the end of 2021, the preliminary data indicate that FX reserves were about 103 percent of the IMF's composite reserve adequacy metric, which, together with the \$60 billion swap line with US Federal Reserve (expired at end 2021), provided adequate buffer against a wide range of possible external shocks.</p>						

Risks	Likelihood	Impact of Risk (High, Medium, Low)	Policy Response
Outbreaks of lethal and highly contagious Covid-19 variants lead to subpar/volatile growth, with increased divergence across countries. Rapidly increasing hospitalizations and deaths, due to low vaccination rates or caused by vaccine-resistant variants, force lockdowns and increased uncertainty about the course of the pandemic. Policies to cushion the economic impact are prematurely withdrawn or for many EMDEs, constrained by lack of space. In addition to declines in external demand, a reassessment of growth prospects triggers capital outflows, financial tightening, currency depreciations, and debt distress in some EMDEs, with spillovers to AEs, leading to growing divergence of economic recovery paths.	High: Failure to contain COVID-19 in trade partners leads to prolonged lockdowns and greater uncertainty.	Medium (downside): A slowdown in key export markets would impact Korea's recovery and damage business confidence. However, Korea's high-tech exports represent a mitigant which would help limit the impact.	Extend some of the support measures already in place: (i) fiscal support to affected workers and businesses in affected sectors; (ii) BoK asset purchase program to support liquidity in bond markets and the transmission of monetary policy; (iii) provide liquidity support to financial markets; use prudential regulatory actions to address asset quality deterioration and encourage private debt resolution.
Abrupt growth slowdown in China. A combination of a sharper-than-expected slowdown in the property sector, more frequent Covid-19 outbreaks, and inadequate policy responses result in a sharp slowdown of economic activity, with spillovers affecting other countries through financial, trade, and commodity-price channels.	Medium: A slowdown in Korea's main trading partner would slow growth through lower exports and damage business confidence.	Medium (downside): Slower growth and damage to business confidence would adversely impact investment and the recovery in private consumption.	Provide support to affected workers and businesses, supported by the BoK easing monetary policy and potentially asset purchases to help keep financial conditions accommodative and support lending.
De-anchoring of inflation expectations in the U.S. and/or advanced European economies. Fast recovery in demand amid a lagging supply-side response leads to a rapid de-anchoring of inflation expectations, which prompts central banks to tighten policies abruptly. The resulting sharp tightening of global financial conditions and spiking risk premia lead to currency depreciations, asset market selloffs, bankruptcies, sovereign defaults, and knock-on effects (e.g., lower commodity prices and contagion across EMDEs).	Medium: Tightening in global financial conditions and spike in risk premia that exposes financial vulnerabilities.	Medium(downside): Slower growth and damage to business confidence would adversely impact investment and the recovery in private consumption.	Extend support measures: (i) BoK asset purchase program to support liquidity in bond markets, compress risk premia and strengthen the transmission of monetary policy; (ii) provide liquidity support to banks.
Rising and volatile food and energy prices. Commodity prices are volatile and trend up amid pent-up demand and supply disruptions, conflicts, or a bumpy transition to renewable energy sources. This leads to bouts of price and real sector volatility, including acute energy crises in some countries.	High: Adverse developments could further damage confidence and demand.	Medium (downside): As a larger importer of commodities, this would damage confidence in Korea, slow down the recovery, and increase inflationary pressures.	Provide targeted support to vulnerable groups to ensure inclusive recovery.

1/ The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent; "medium" a probability between 10 and 30 percent; and "high" a probability between 30 and 50 percent).

Risks	Likelihood	Impact of Risk (High, Medium, Low)	Policy Response
<p>Extended global supply chains disruptions. Persistent disruptions in the production and shipment of components caused by lockdowns and logistical bottlenecks continue until 2023. This leads to shortages of intermediate and final consumer goods, growth slowdowns, and price surges, compounded by the passthrough from currency depreciations in vulnerable countries.</p>	<p>High: This would impact main trading partners and slow Korea's exports and damage confidence. It may also result in higher inflationary pressures.</p>	<p>Medium (downside): Slower growth coupled with higher inflationary pressures would adversely impact investment and the recovery in private consumption. Korea's high-tech exports is a mitigant that lowers the likelihood of impact from trade disruptions.</p>	<p>Provide targeted fiscal support to vulnerable groups to help individuals and businesses.</p>
<p>Global information infrastructure failure. A disruption in global information systems (from an unintended error, natural disaster, or knock-on effects of widespread energy shortages) and/or cyber-attacks on critical infrastructure and institutions trigger financial instability or widespread disruptions in socio-economic activities and remote work arrangements.</p>	<p>Medium: Volatility could increase in the global financial markets. Korea's exports could be temporarily adversely affected.</p>	<p>Low (downside): Damage business confidence in Korea and slow the economic recovery.</p>	<p>Provide policy stimulus and liquidity support if needed.</p>
Domestic Risks			
<p>Non-financial corporate (NFC) and/household balance sheet stress. Around 50 percent of SME debt is at-risk, with the sector employing around 70 percent of the world. Household debt is among the highest in the OECD.</p>	<p>Medium House prices could soften and weaken household balance sheets, and a further slowdown in economic growth could push many SMEs into insolvency, resulting in higher loan delinquencies and financial stress that would create a further drag on growth.</p>	<p>High: Recovery would be more uneven and scarring deeper.</p>	<p>Maintain accommodative fiscal and monetary policies. Use macroprudential policies to limit risks to the banking system.</p>
<p>Progress in normalizing relations with North Korea (upside risk).</p>	<p>Low Faster than anticipated progress in relations could have a positive impact on investment and consumer sentiment.</p>	<p>High: Domestic demand could be higher than anticipated.</p>	<p>Prepare plans on how to support North Korea, in cooperation with the international community.</p>

Annex III. Public Sector Debt Sustainability Analysis¹

Korea's public debt is sustainable with high probability due to its relatively low level and favorable composition. However, debt has increased substantially since the onset of the pandemic and is projected to remain on an upward path over the medium terms under unchanged policies. To stabilize debt and accommodate fiscal spending from Korea's demographic transition and structural transformation needs, a phased fiscal consolidation strategy is needed over the medium term.

1. Korea's debt level is relatively low by advanced economy standards but has increased substantially in recent years. Central government debt was 42.4 percent of GDP in 2020, which represents a sharp rise from the 2019 level of 36.3 percent of GDP largely due to discretionary spending in the context of pandemic support policies. Debt is estimated to have reached 43.6 percent of GDP in 2021, with the pace of debt increase lower than previously envisaged due to revenue overperformance related to buoyant asset markets. General government debt has displayed a similar trend, increasing from 42.1 percent of GDP in 2019 to 48.9 percent of GDP in 2020, and estimated to have reached about 50 percent of GDP in 2021. Despite the rise in debt level, debt composition remains favorable, with short-term and FX-denominated debt accounting for just 7 percent and 1 percent of total central government debt respectively in 2020.

2. Public debt is projected to remain on an upward path over the medium term under the baseline. The National Fiscal Management Plan envisages maintaining higher levels of expenditure as percent of GDP relative to pre-COVID times through 2025, while revenue as percent of GDP is projected to decline modestly from the peak in 2021 as the housing market stabilizes. As a result, the fiscal deficit of the central government is expected to stay at around 2 percent of GDP, notably higher than the pre-COVID average. In turn, the central government debt is projected to reach about 52 percent of GDP by 2026, and general government debt to approach 58 percent of GDP. Shocks to the real GDP growth rate, real interest rate, and the primary balance could push debt higher over the projection horizon relative to the baseline, but central government debt is likely to stay below 60 percent of GDP under all these shock scenarios, including under a combined macro-fiscal shock.

3. To stabilize public debt and accommodate fiscal spending associated with population aging and structural transformation needs, a phased fiscal consolidation strategy is needed as the economy exits from the pandemic. Stabilizing public debt will require a phased fiscal consolidation strategy involving both revenue mobilization and expenditure rationalization over the medium term.

¹ Prepared by Hua Chai.

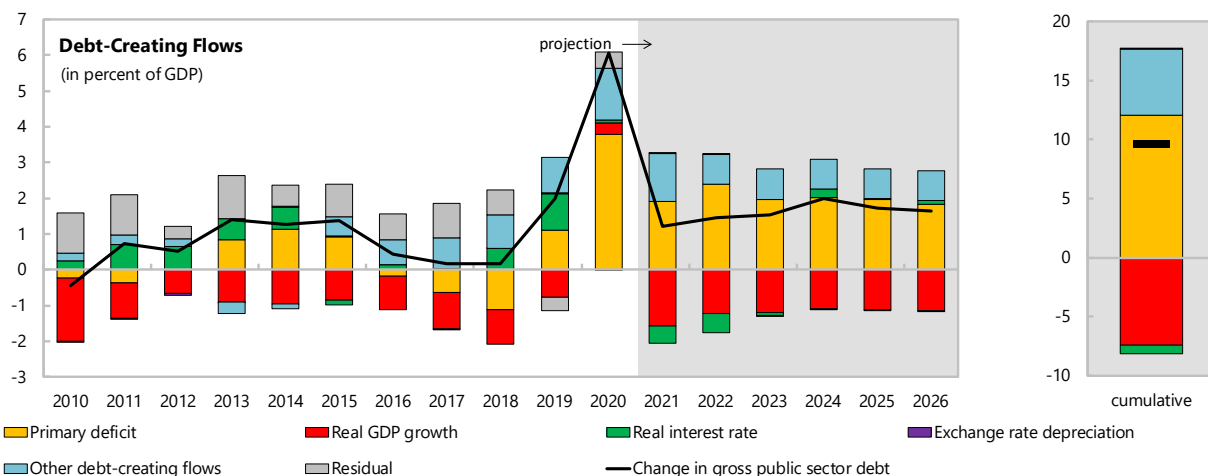
Figure 1. Baseline Scenario
(In percent of GDP, unless otherwise indicated)

Debt, Economic and Market Indicators ^{1/}

	Actual			Projections						As of February 03, 2022		
	2010-2018 ^{2/}	2019	2020	2021	2022	2023	2024	2025	2026	Sovereign Spreads		
Nominal gross public debt	31.8	36.3	42.4	43.6	45.0	46.6	48.6	50.3	51.9	EMBIG (bp) 3/		
Public gross financing needs		4.9	7.5	5.2	8.6	10.1	9.9	10.4	10.9	5Y CDS (bp)		
Real GDP growth (in percent)	3.5	2.2	-0.9	4.0	3.0	2.8	2.5	2.4	2.3	Ratings	Foreign	Local
Inflation (GDP deflator, in percent)	1.7	-0.8	1.3	2.8	3.2	2.0	1.5	1.8	1.8	Moody's	Aa2	Aa2
Nominal GDP growth (in percent)	5.2	1.4	0.4	6.9	6.3	4.9	4.0	4.3	4.2	S&P's	AA	AA
Effective interest rate (in percent) ^{4/}	3.0	2.1	1.6	1.7	1.9	2.0	2.1	1.9	2.0	Fitch	AA-	AA-

Contribution to Changes in Public Debt

	Actual			Projections						cumulative	debt-stabilizing primary balance ^{9/}
	2010-2018	2019	2020	2021	2022	2023	2024	2025	2026		
Change in gross public sector debt	0.6	2.0	6.1	1.2	1.4	1.5	2.0	1.7	1.6	9.5	
Identified debt-creating flows	-0.2	2.4	5.6	1.2	1.4	1.5	2.0	1.7	1.6	9.5	
Primary deficit ^{10/}	0.0	1.1	3.8	1.9	2.4	2.0	2.0	2.0	1.8	12.1	-0.2
Primary (noninterest) revenue and grants	17.9	19.3	19.4	22.1	20.9	20.5	20.5	20.4	20.5	124.9	
Primary (noninterest) expenditure	17.9	20.4	23.2	24.0	23.3	22.5	22.5	22.4	22.3	137.0	
Automatic debt dynamics ^{5/}	-0.6	0.3	0.4	-2.1	-1.8	-1.3	-0.9	-1.1	-1.0	-8.1	
Interest rate/growth differential ^{6/}	-0.6	0.2	0.4	-2.1	-1.8	-1.3	-0.9	-1.1	-1.0	-8.1	
Of which: real interest rate	0.4	1.0	0.1	-0.5	-0.5	-0.1	0.2	0.0	0.1	-0.7	
Of which: real GDP growth	-1.0	-0.8	0.3	-1.6	-1.2	-1.2	-1.1	-1.1	-1.1	-7.4	
Exchange rate depreciation ^{7/}	0.0	0.0	0.0	...	...	...	...	...	...	...
Other identified debt-creating flows	0.4	1.0	1.4	1.3	0.8	0.8	0.8	0.8	0.8	5.5	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Policy lending	0.4	1.0	1.4	1.3	0.8	0.8	0.8	0.8	0.8	5.5	
Residual, including asset changes ^{8/}	0.9	-0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	



Source: IMF staff.

1/ Public sector is defined as central government excluding the social security fund.

2/ Based on available data.

3/ Long-term bond spread over U.S. bonds.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year.

5/ Derived as $[(r - \pi(1+g) - g + ae(1+r))/(1+g+\pi+g\pi)]$ times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as $r - \pi(1+g)$ and the real growth contribution as $-g$.

7/ The exchange rate contribution is derived from the numerator in footnote 5 as $ae(1+r)$.

8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

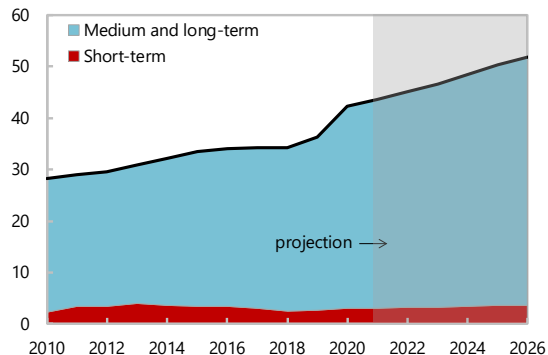
10/ Primary deficit of the central government, excluding the social security fund.

Figure 2. Composition of Public Debt and Alternative Scenarios

Composition of Public Debt

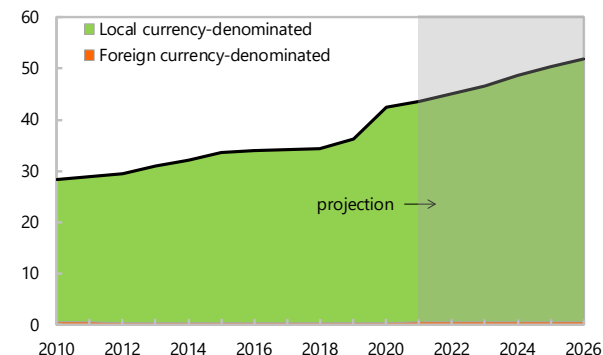
By Maturity

(in percent of GDP)



By Currency

(in percent of GDP)

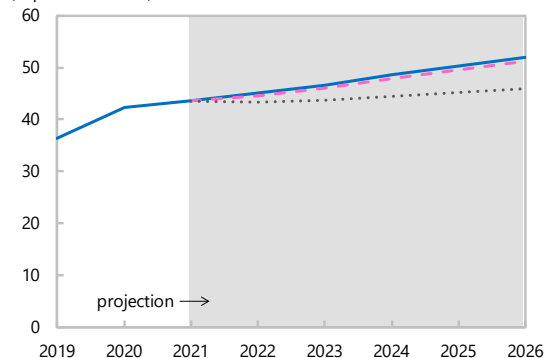


Alternative Scenarios

— Baseline Historical - - - Constant Primary Balance

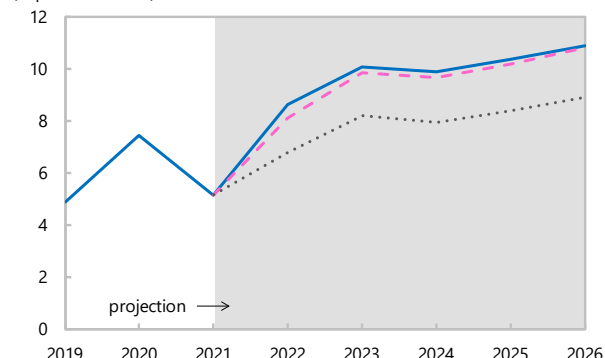
Gross Nominal Public Debt

(in percent of GDP)



Public Gross Financing Needs

(in percent of GDP)



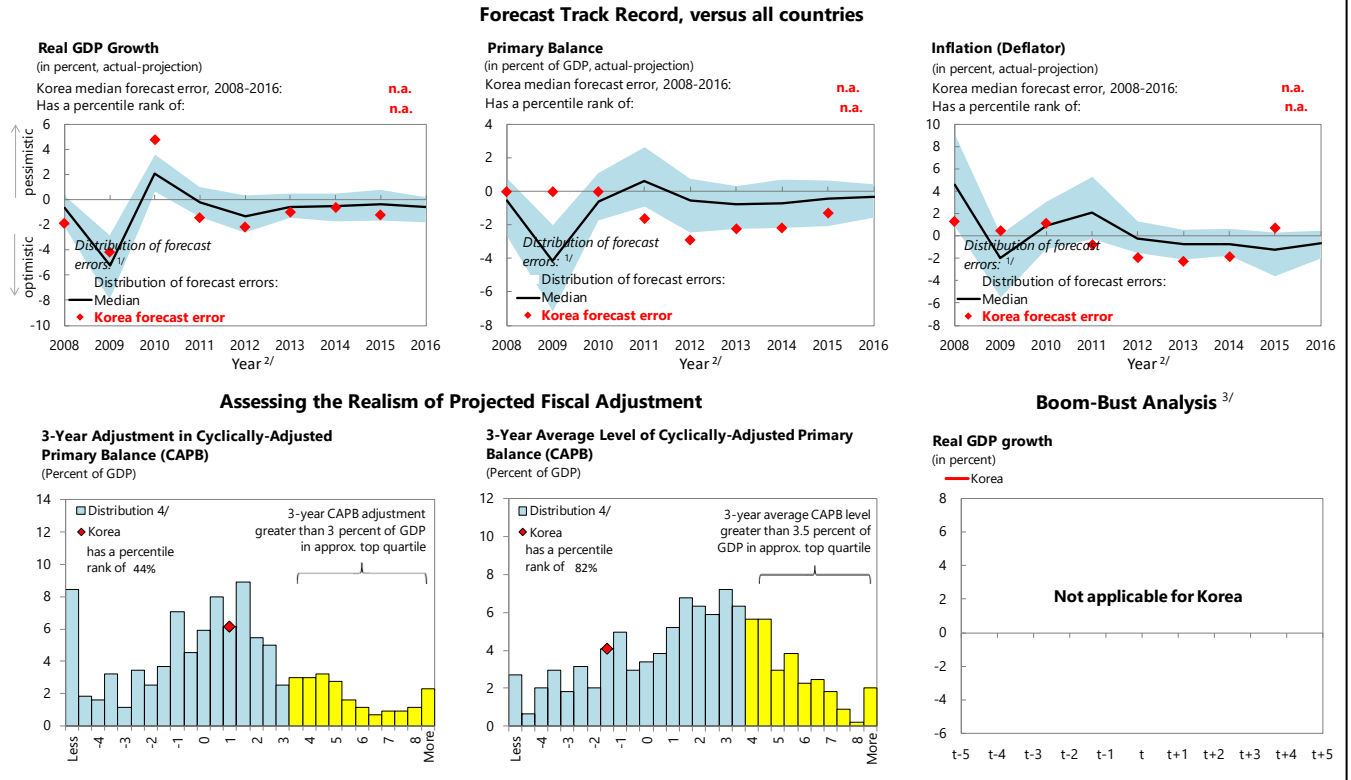
Underlying Assumptions

(in percent)

	2021	2022	2023	2024	2025	2026
Baseline Scenario						
Real GDP growth	4.0	3.0	2.8	2.5	2.4	2.3
Inflation	2.8	3.2	2.0	1.5	1.8	1.8
Primary Balance	-1.9	-2.4	-2.0	-2.0	-2.0	-1.8
Effective interest rate	1.7	1.9	2.0	2.1	1.9	2.0
Constant Primary Balance Scenario						
Real GDP growth	4.0	3.0	2.8	2.5	2.4	2.3
Inflation	2.8	3.2	2.0	1.5	1.8	1.8
Primary Balance	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9
Effective interest rate	1.7	1.9	2.0	2.1	1.9	2.0
Historical Scenario						
Real GDP growth	4.0	2.6	2.6	2.6	2.6	2.6
Inflation	2.8	3.2	2.0	1.5	1.8	1.8
Primary Balance	-1.9	-0.6	-0.6	-0.6	-0.6	-0.6
Effective interest rate	1.7	1.9	2.3	2.6	2.6	2.9

Source: IMF staff.

Figure 3. Korea Public DSA – Realism of Baseline Assumptions



Source : IMF Staff.

1/ Plotted distribution includes all countries, percentile rank refers to all countries.

2/ Projections made in the spring WEO vintage of the preceding year.

3/ Not applicable for Korea, as it meets neither the positive output gap criterion nor the private credit growth criterion.

4/ Data cover annual observations from 1990 to 2011 for advanced and emerging economies with debt greater than 60 percent of GDP. Percent of sample on vertical axis.

Figure 4. Korea Public DSA – Stress Tests



Source: IMF staff.

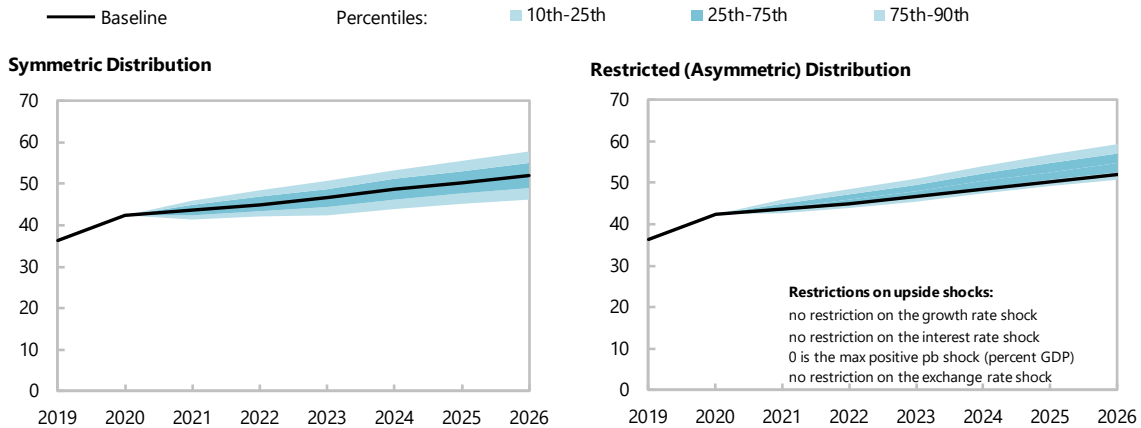
Figure 5. Korea Public DSA Risk Assessment

Heat Map

Debt level ^{1/}	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability shock
Gross financing needs ^{2/}	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability Shock
Debt profile ^{3/}	Market Perception	External Financing Requirements	Change in the Share of Short-Term Debt	Public Debt Held by Non-Residents	Foreign Currency Debt

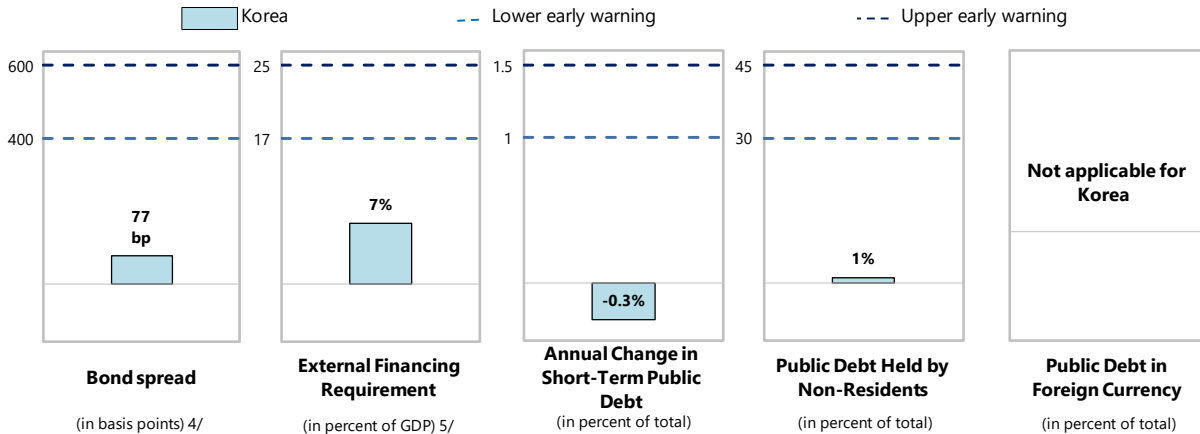
Evolution of Predictive Densities of Gross Nominal Public Debt

(in percent of GDP)



Debt Profile Vulnerabilities

(Indicators vis-à-vis risk assessment benchmarks, in 2020)



Source: IMF staff.

1/ The cell is highlighted in green if debt burden benchmark of 85% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

2/ The cell is highlighted in green if gross financing needs benchmark of 20% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

3/ The cell is highlighted in green if country value is less than the lower risk-assessment benchmark, red if country value exceeds the upper risk-assessment benchmark, yellow if country value is between the lower and upper risk-assessment benchmarks. If data are unavailable or indicator is not relevant, cell is white.

Lower and upper risk-assessment benchmarks are:

400 and 600 basis points for bond spreads; 17 and 25 percent of GDP for external financing requirement; 1 and 1.5 percent for change in the share of short-term debt; 30 and 45 percent for the public debt held by non-residents.

4/ Long-term bond spread over U.S. bonds, an average over the last 3 months, 05-Nov-21 through 03-Feb-22.

5/ External financing requirement is defined as the sum of current account deficit, amortization of medium and long-term total external debt, and short-term total external debt at the end of previous period.

Annex IV. External Sector Sustainability

Figure 1. Korea: External Debt Sustainability: Bound Tests 1/ 2/
(External debt in percent of GDP)

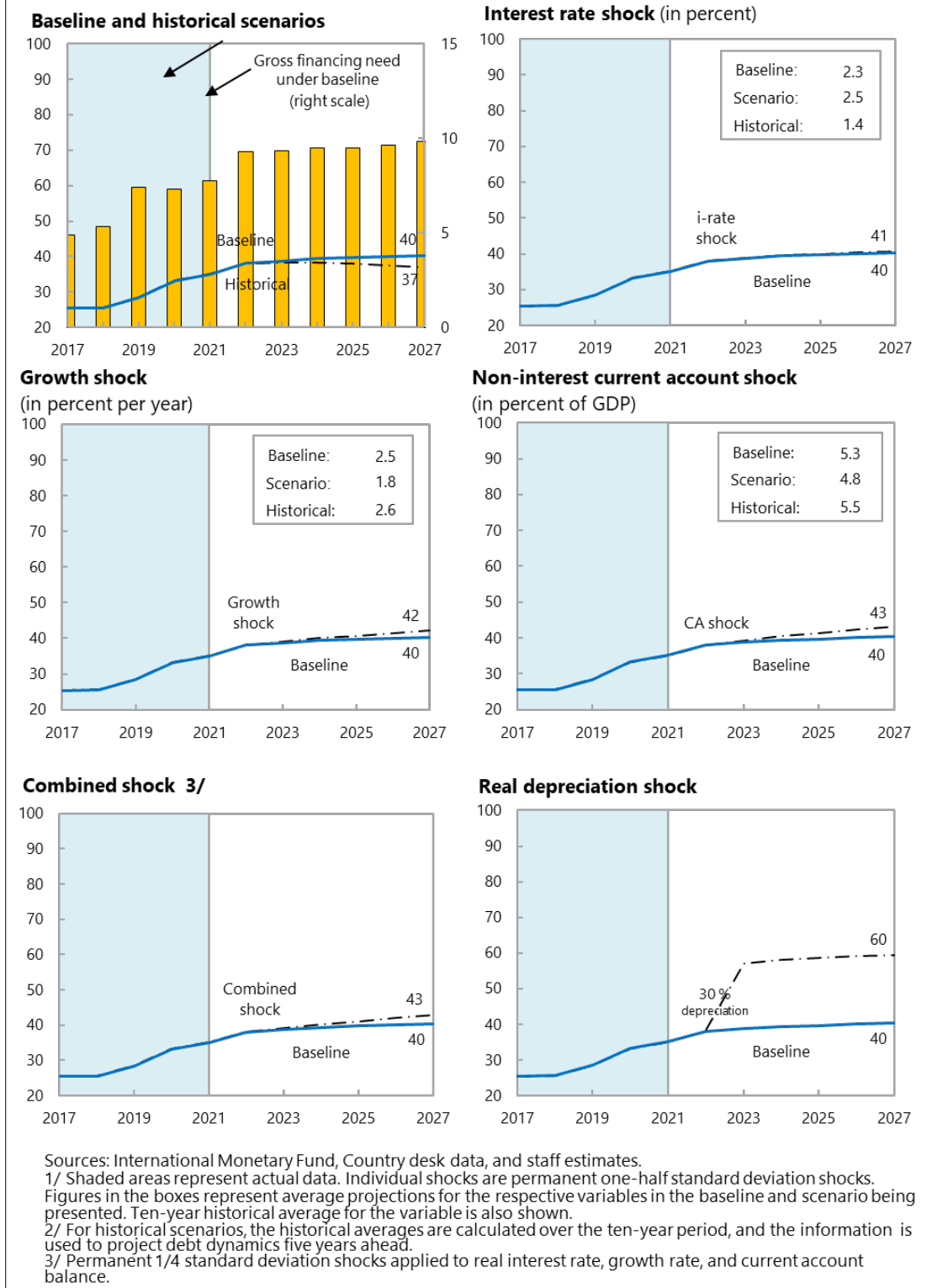


Table 1. Korea: External Debt Sustainability Framework, 2017-2027
(In percent of GDP, unless otherwise indicated)

	Actual					Projections						Debt-stabilizing non-interest current account 6/ 1.4	
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027		
1 Baseline: External debt	25.4	25.6	28.5	33.3	35.1	38.0	38.7	39.4	39.7	40.1	40.4		
2 Change in external debt	-0.1	0.2	2.9	4.8	1.8	2.9	0.7	0.7	0.3	0.4	0.3		
3 Identified external debt-creating flows (4+8+9)	-6.1	-4.1	-1.0	-1.9	-4.7	-3.3	-3.6	-3.4	-3.5	-3.3	-3.2		
4 Current account deficit, excluding interest payments	-4.9	-4.9	-4.1	-5.0	-5.1	-4.6	-5.1	-5.2	-5.5	-5.5	-5.3		
5 Deficit in balance of goods and services	-4.7	-4.7	-3.2	-4.0	-4.0	-3.4	-3.7	-3.5	-3.6	-3.7	-3.9		
6 Exports	41.3	42.3	40.0	37.1	42.7	46.3	46.0	45.7	45.7	45.7	45.9		
7 Imports	36.5	37.6	36.8	33.1	38.6	42.8	42.3	42.2	42.1	42.0	41.9		
8 Net non-debt creating capital inflows (negative)	0.5	1.9	1.5	2.6	3.3	2.1	1.9	1.9	2.0	2.0	1.9		
9 Automatic debt dynamics 1/	-1.6	-1.1	1.7	0.6	-2.8	-0.8	-0.5	-0.1	0.1	0.1	0.2		
10 Contribution from nominal interest rate	0.3	0.4	0.5	0.3	0.3	0.3	0.6	0.8	1.0	1.0	1.0		
11 Contribution from real GDP growth	-0.7	-0.7	-0.6	0.2	-1.2	-1.0	-1.0	-0.9	-0.9	-0.9	-0.9		
12 Contribution from price and exchange rate changes 2/	-1.2	-0.8	1.7	0.0	-1.9	...	...	...	...	...	...
13 Residual, incl. change in gross foreign assets (2-3) 3/	6.0	4.3	3.9	6.6	6.6	6.2	4.3	4.1	3.8	3.7	3.5		
External debt-to-exports ratio (in percent)	61.5	60.4	71.3	89.7	82.2	82.2	84.2	86.2	86.9	87.7	88.0		
Gross external financing need (in billions of US dollars) 4/	79.5	91.8	122.7	119.9	140.4	171.9	181.8	193.4	202.5	214.6	228.1		
in percent of GDP	4.9	5.3	7.4	7.3	7.8	10-Year	10-Year	9.3	9.3	9.5	9.5	9.7	9.9
Scenario with key variables at their historical averages 5/						38.0	38.4	38.3	38.0	37.6	37.0	0.5	
Key Macroeconomic Assumptions Underlying Baseline						Historical Average	Standard Deviation						
Real GDP growth (in percent)	3.2	2.9	2.2	-0.9	4.0	2.6	1.3	3.0	2.8	2.5	2.4	2.3	2.3
GDP deflator in US dollars (change in percent)	4.9	3.3	-6.4	0.1	6.0	1.2	4.1	-0.8	2.6	2.0	2.1	1.9	1.9
Nominal external interest rate (in percent)	1.3	1.8	2.0	1.2	0.9	1.4	0.3	0.8	1.5	2.1	2.6	2.7	2.7
Growth of exports (US dollar terms, in percent)	10.4	8.9	-9.5	-8.0	26.9	1.9	11.7	10.8	4.9	3.8	4.6	4.4	4.6
Growth of imports (US dollar terms, in percent)	16.9	9.5	-6.4	-10.9	28.9	1.3	13.6	13.3	4.2	4.1	4.4	4.1	4.1
Current account balance, excluding interest payments	4.9	4.9	4.1	5.0	5.1	5.5	1.1	4.6	5.1	5.2	5.5	5.5	5.3
Net non-debt creating capital inflows	-0.5	-1.9	-1.5	-2.6	-3.3	-1.3	1.0	-2.1	-1.9	-1.9	-2.0	-2.0	-1.9

1/ Derived as $[r - g - r(1+g) + ea(1+r)] / (1+g+r+gr)$ times previous period debt stock, with r = nominal effective interest rate on external debt; r = change in domestic GDP deflator in US dollar terms, g = real GDP growth rate,

e = nominal appreciation (increase in dollar value of domestic currency), and a = share of domestic-currency denominated debt in total external debt.

2/ The contribution from price and exchange rate changes is defined as $[-r(1+g) + ea(1+r)] / (1+g+r+gr)$ times previous period debt stock. r increases with an appreciating domestic currency ($e > 0$) and rising inflation (based on GDP deflator).

3/ For projection, line includes the impact of price and exchange rate changes.

4/ Defined as current account deficit, plus amortization on medium- and long-term debt, plus short-term debt at end of previous period.

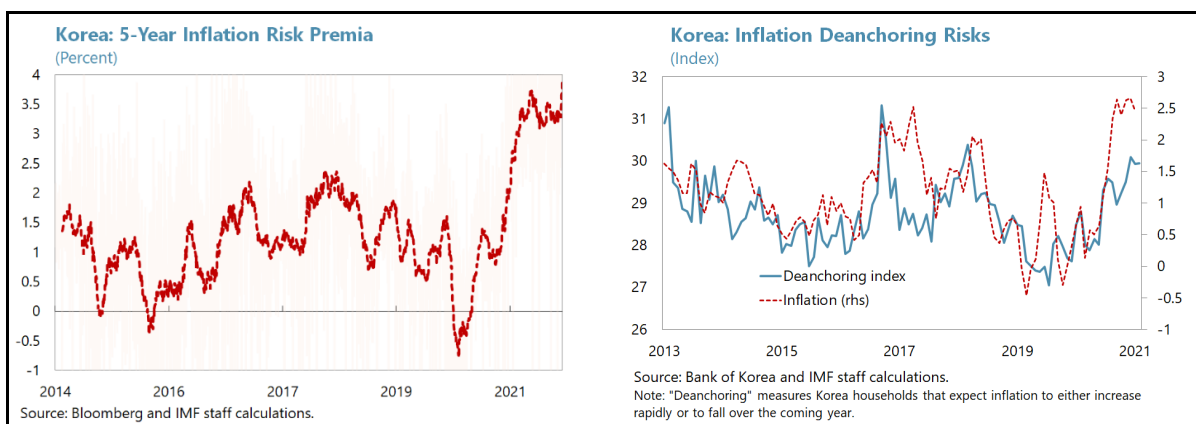
5/ The key variables include real GDP growth; nominal interest rate; dollar deflator growth; and both non-interest current account and non-debt inflows in percent of GDP.

6/ Long-run, constant balance that stabilizes the debt ratio assuming that key variables (real GDP growth, nominal interest rate, dollar deflator growth, and non-debt inflows in percent of GDP) remain at their levels of the last projection year.

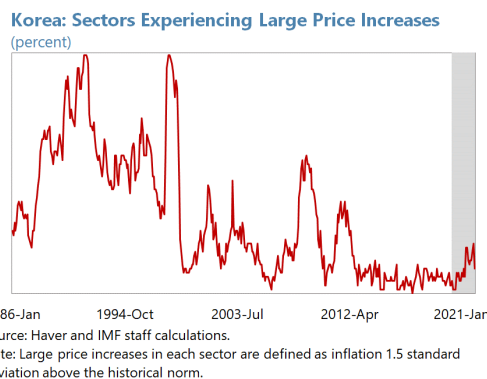
Annex V. Inflation Expectations, Diffusion and Persistence Risks in Korea¹

The number of sectors registering large price changes has increased recently but remains contained. Analysis using micro price data suggests that recently observed price increases may be less persistent, with a lower pass through to core inflation, given Korea’s low and stable inflation environment.

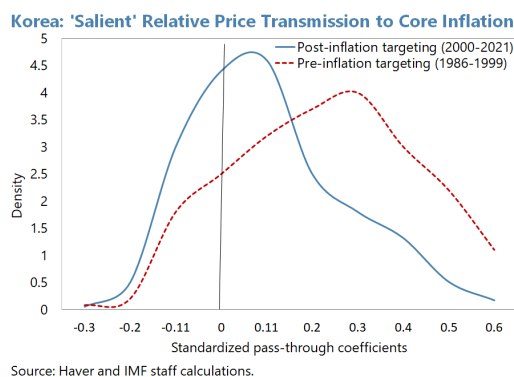
1. A strong post-pandemic economic rebound underpinned by expansionary policies as well as global supply bottlenecks is fueling concern that inflation may persistently exceed the BOK’s target. Import inflation is at a decadal high on the back of rising commodity prices, and market are pricing in a higher inflation risk premium. However, survey-based measures of inflation expectations remain more anchored.



2. **There has recently been an increase in the number of sectors registering outsized price changes relative to historical norms.** These readings have been driven mainly by large hikes in the prices of a relatively small number of pandemic-affected goods. A key question then is whether these large price increases in a relatively small share of the consumption basket will feed into core inflation.



3. **Micro price data can inform on relative price 'shocks' for core inflation.** Using 101 micro price series, the analysis follows Borio *et al.* (2021) by extracting relative price 'salient' changes from the idiosyncratic component in a factor model, which is then transformed using the non-linear transformation in Hamilton (2003) and used as a regressor on core inflation.



¹ Prepared by Sohrab Rafiq.

4. Salient and positive relative price shocks are more likely to pass-through to core inflation. Being large, they are more noticeable; and being positive, they tend to constrain consumers more than decreases. Similar considerations may apply to the decisions of producers, which ultimately underlie changes in the prices of the consumer basket.

5. Korea micro data shows that the pass-through of salient relative price increases to core inflation has declined. The analysis suggests that some of the recently observed price increases could be transient. This is because the pass-through of relative price shocks into inflation would be small in the current environment in which inflation has been enduringly low and stable.

6. These results should be caveated by inflation dynamics during the pandemic having been unusual. Recent inflation dynamics have taken place in the context of the post-Covid normalization process and on the back of unprecedented global fiscal and monetary stimulus.

Annex VI. Household Debt implications for Monetary Policy in Korea¹

Analysis suggests that monetary tightening in Korea could have a greater impact on domestic demand because of the high level of household debt.

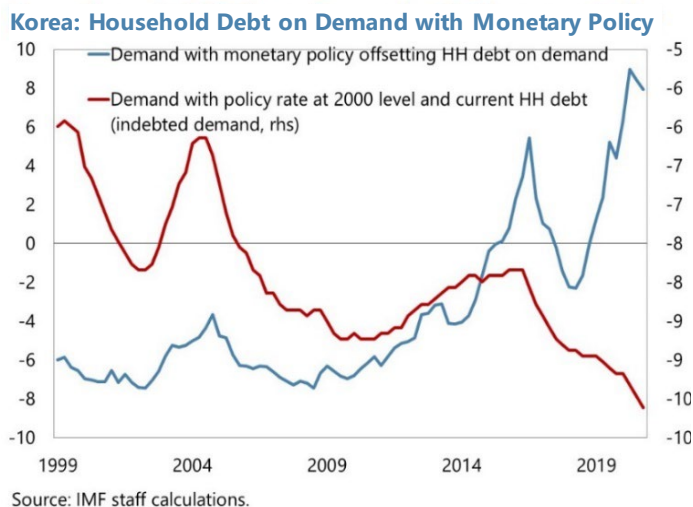
1. Korea has an elevated level of household debt, also made riskier by its composition.

Approximately 50 percent of household debt is linked to floating interest rates and is structured as a bullet payment. Bullet loans are riskier because they have shorter maturities and therefore greater susceptibility to rollover risk.

2. These high debt levels can create challenges for monetary policy. The fall in interest rates has stabilized debt servicing despite significantly higher debt. However, a snapback in rates may dampen domestic demand. Following Mian and Sufi (2021), to estimate the size of this risk, the impact of real interest rates on aggregate demand is estimated given the existing high debt levels.²

3. Domestic demand would have been significantly lower, purely on account of high debt, had real rates been higher in recent years. If the policy rate had stayed at the early 2000 level, given current levels of household debt, domestic demand would be around 10 percent lower. The Bank of Korea has lowered interest rates to offset this shortfall and stimulate demand (blue line). This suggests a tightening in monetary policy would have a greater impact on growth due to the current elevated levels of household debt.

4. The findings capture the idea that large household debt can burden aggregate demand. Going forward, if Korea's household debt continues to rise it may further increase the burden on domestic demand. These findings heighten the need for prudential policies rather than monetary policy to contain household debt risks.



¹ Prepared by Sohrab Rafiq.

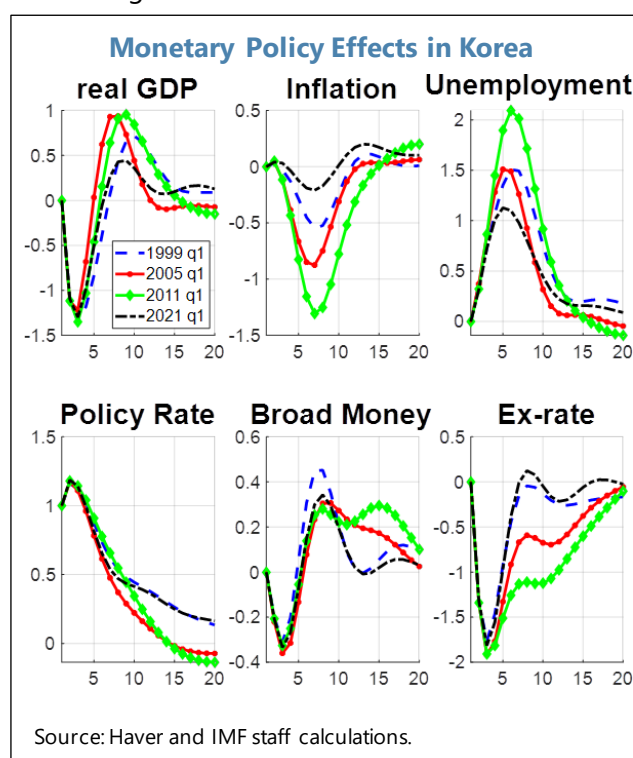
² Mian, A. and A. Sufi (2021), 'Indebted Demand', *Quarterly Journal of Economics*, 136(4): 2243-2307.

Annex VII. Time-Varying Effects of Monetary Policy in Korea¹

In the context of monetary policy normalization this box explores how the effects of monetary policy may have changed in time. The analysis suggests that the macro effect of monetary policy on inflation and, to a lesser extent, economic activity has moderated.

1. The interaction between the Bank of Korea’s policy rate and a set of macro-financial variables is modeled. A model that comprises of a standard money demand, monetary policy, and exchange rate equations (which conveys information about recent economic developments) is formulated. Monetary policy is modeled using (i) time-varying parameters that allow for state-dependency and non-linearities; (ii) allowing the size of the shocks hitting the Korean economy to vary; and (iii) assuming monetary policy is neutral in the long-run.

2. The time-varying effects of a—non-systematic—1 percent monetary policy change have moderated, particularly on inflation. This dynamic is not unique to Korea, having been observed in other advanced countries. The declining impact could reflect a tighter macroprudential stance, which could limit the pass-through of monetary policy. The findings are also consistent with the asymmetric effects of monetary policy when central banks are constrained by the effective lower bound (ELB). The smaller effect of monetary policy implies a stronger response may be needed to tame inflation with resulting risks for growth. This also implies a potentially greater role for fiscal and macroprudential policies.



¹ Prepared by Sohrab Rafiq.

Annex VIII. Korea Housing Demand¹

The fall in interest rates and rise in expected returns in real estate prices has stimulated strong demand for real estate and speculative activity.

1. Falling rates has seen economic rent accrue to homeowners that has pushed up real-estate demand. The costs of home ownership include: (i) the opportunity cost of investing in a different asset (the 'risk-free' interest rate, plus a risk adjustment reflecting the risk associated with housing); and (ii) the ongoing maintenance of the property (d_t). These costs are potentially offset by the household's expectations of capital gains (ρ_t).

$$\text{Marginal Cost of Housing } (\pi_t) = r_t + d_t + rp_t + \tau_t - \rho_t$$

As an illustrative example, based on Korea data, and assuming a risk neutral environment where $rp_t = 0$, the required rate of return to break even on a property would be $(\pi_t) = 3.4 + 1 + 0.7 - 4.5 = 0.6$ percent. Assuming the average price of a house in inner Seoul at US\$ 932k, a 0.6 percent marginal cost would imply US\$ 5,590 in rent per year, or US\$ 466 per month. Average rents, however, are over US\$ 1,000 per month, implying that agents accrue US\$ 534 in economic profit (π_t). The price an owner can charge for a house is higher than the user cost and can be considered 'economic rent'. Even if the owner is living in the dwelling rather than renting there is an implicit economic profit accruing to the homeowner.

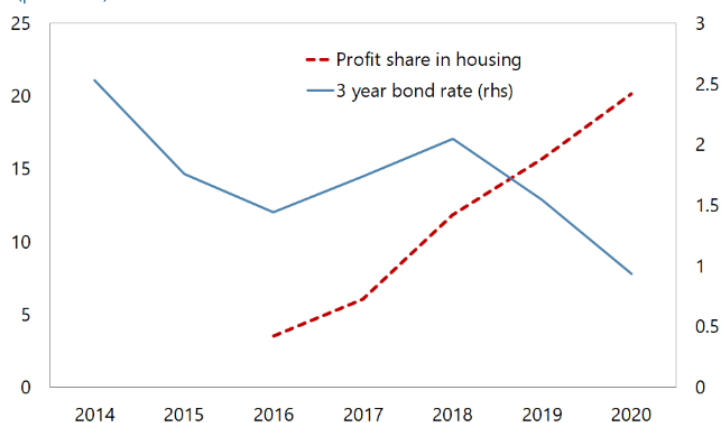
2. The implicit flow of economic value from real-estate to homeowners has been going up. Housing is included in a country's capital stock. The rationale being that a dwelling forms part of the means of production — it produces housing services by giving the occupant a place to live. The profit flow to homeowners can therefore be calculated using

$$\text{Homeowner Profits} \equiv 1 = \frac{R \cdot K}{Y} + \frac{\text{profits}}{Y}$$

where R is the rate of return on housing, Y is the residential gross valued added and K is the stock of residential housing capital. As of 2021, the data for Korea shows that the implied rent on a dwelling in 2021 was equal to around 20-25 percent more than the cost of the mortgage ($R \cdot K$). This implies that the cost of owning a dwelling has fallen, but the flow of output produced by housing has remained stable.

3. These developments have encouraged strong demand for real-estate. A sufficiently large increase in risk premia, property taxes or mortgages rates (including by tighter macroprudential borrower-based policies) would be expected to help contain demand for housing.

Korea: Housing Profit Share
(percent)



Source: Bank of Korea, Haver and IMF staff calculations.

¹ Prepared by Sohrab Rafiq

Annex IX. Fund's Past Advice on Labor Market, Gender Inequality, and Climate

Recommendation	Details	Article IV Year
Labor market		
Adopt "flexicurity" in the labor market	<ul style="list-style-type: none"> • More flexibility for regular workers • Inclusive safety net for the unemployed • Active labor market policies 	2017, 2019
Build a strong foundation for "flexicurity"	<ul style="list-style-type: none"> • Dialogue with all stakeholders including non-unionize workers, SMEs and the self-employed • Flexible working hours and a move away from the strictly seniority-based wage system 	2017
Cautious in expanding public sector employment and increasing the minimum wage	<ul style="list-style-type: none"> • While there is scope to increase public sector jobs, the government should be careful in expanding public employment to create jobs 	2017
	<ul style="list-style-type: none"> • Phasing out compensatory subsidies to SMEs • Public sector job creation should be linked to developing services that cannot be provided by the private sector • Set up a Job Stabilization Fund to subsidize eligible SMEs to dampen the impact of the minimum wage increase and preserve some jobs 	2019
Boosting youth employment	<ul style="list-style-type: none"> • Strengthen work-study dual system and internships • More active collaboration with businesses and ensuring the quality of placements, to guarantee accumulation of on-the-job skills and enhance career prospects. 	2019
Unemployment benefit	<ul style="list-style-type: none"> • Phase-in an expansion of insurance coverage to workers in non-standard forms of employment (e.g., artists and freelancers) • Strengthen the safety net through relaxation of the eligibility criteria for the basic livelihood security benefits 	2020

Recommendation	Details	Article IV Year
Gender		
Enhance participation of women in the labor market	<ul style="list-style-type: none"> • Strengthening quality and affordability of childcare services • Promoting shared parental leave • Making the tax treatment of second earners more neutral • Introducing benchmarks for employment and leadership of women by corporations • Broader measures that improve work-life balance, including the reduction in working hours, and mitigate labor market duality 	2017, 2019
Climate		
Increase allowance prices in Korea's ETC	<ul style="list-style-type: none"> • Substantial increase in allowance prices in Korea's emissions trading system from current levels of about \$20/ton • Align emissions caps with the 2030 mitigation target and underpinning the system with a robust and rising price floor 	2020
Compensate vulnerable groups for higher energy prices, support R&D and investment in climate-smart technology, and lower the tax burden on labor and capital income	<ul style="list-style-type: none"> • Increase the shares of renewable power generation and electric vehicles • Improve energy efficiency of infrastructure • Support innovation in green industry • Reinforce incentives for mitigation and green investment • Revenue-neutral fee/rebate schemes for vehicles and power generators with lower emission rates 	2020

Recommendations	Agency	Status ¹	Description of Actions Taken
More Robust Identification of Systemic Risk Conditions			
Conduct an impact assessment of the 'open banking system' and e-money on security and operational risks and market structure	FSC/FSS and BoK	LD	<ul style="list-style-type: none"> ▪ The FSC/FSS drew up measures to improve open banking system, including ways to enhance security on October 21, 2020. ▪ The FSC has been working on open banking legislation which includes duties and requirements for organizations using or participating in the system, etc. In this regard, the amendment of the Electronic Financial Transactions Act was proposed to the National Assembly on November 27, 2020. The FSC introduced periodic and non-periodic inspections of fintech companies and established a system/framework for inspecting cyber security system of financial institutions on December 22, 2021. ▪ The FSS has monitored cyber security risks related to open banking system. <ul style="list-style-type: none"> - Banks and electronic financial service providers offering open banking services (54 in total) in the end of 2020 were subject to inspections (conducted from February to April 2021) on their operation of open banking services.
Assess the potential rollover risk implied by the <i>Jeonse</i> leasehold system and its connectedness to securities companies	FSC/FSS and BoK	PD	<ul style="list-style-type: none"> ▪ The FSC announced measures to strengthen household debt management in October 2021, which includes improving DSR rules on individual borrowers in order to establish lending practice based on borrowers' debt-servicing capabilities. <p>The FSS has been identifying areas/regions where <i>Jeonse</i> deposit-related risks* could occur. The FSS has also been carrying out constant monitoring on the areas/regions.</p> <p>Considering the possibility that gains from increased <i>Jeonse</i> deposits (resulted from rising <i>Jeonse</i> prices) could be injected to the stock market, the financial authorities are monitoring retail investor's investment trend in the stock market.</p>
Enhance stress testing practices to better estimate vulnerabilities relating to nonperforming loan (NPL) sales, FX and domestic household liquidity, SME loans, securities intermediaries activities, and sovereign contingent liabilities	BoK and FSC/FSS	PD	<ul style="list-style-type: none"> ▪ Considering the scheduled unwinding of temporary deregulatory measures (lowering FX LCR from 80% to 70%), the FSS plans to revise FX liquidity stress testing under Basel III LCR framework. ▪ It is planned to improve stress testing methods in the mid-and long- term by collecting related data.
¹ D—Done / LD—Largely Done / PD—Partly Done / NA—No Action.			

Recommendations	Agency	Status	Description of Actions Taken
Strengthening the Preemptive Management of Systemic Vulnerabilities			
Strengthen the institutional framework for financial stability by assigning the MEFM (or a body empowered for the equivalent purpose) macroprudential oversight as its sole primary objective	MOEF, FSC and BoK	NA	
Widen the definition of financial holding company and enhance legal powers to cover all financial conglomerates including requirements for group-wide liquidity risks and contingency plans	MOEF and FSC/FSS	PD	<ul style="list-style-type: none"> ▪ The FSC has made efforts to legislate the Act on Supervision of Financial Groups. The notice of legislation was posted from June to July 2020. The bill was proposed to the National Assembly on August 31, 2020 and passed the National Assembly in December 2020. The enforcement decree of the Act was legislated and the Act took effect in June 2021. ▪ With the aim of strengthening supervision of non-holding financial conglomerates, the Act contains provisions related to (i) tightened internal control and risk management and (ii) solvency management (contagion risks and concentration risks, etc.), including the supervision of capital adequacy. Under the Act, it is required to submit and implement a management improvement plan in case of group-wide risks. <ul style="list-style-type: none"> * Financial holding groups are already subject to similar measures under the Financial Holding Companies Act. ▪ The FSS is working on coming up with liquidity regulations that are consistent with international recommendations (LCR and NSFR) * for bank holding companies and introducing the framework. <ul style="list-style-type: none"> * It is based on BCBS recommendation. - The revised supervisory regulations and enforcement decrees were established in August 2021 through analyses on the impact of introducing the requirements, and constant consultations with staff of bank holding companies, and then they were submitted to the FSC in September 2021.
Implement a Sectoral CCyB framework for secured and unsecured household exposures of the banking sector	FSC/FSS and BoK	NA	<ul style="list-style-type: none"> ▪ The FSC/FSS is considering measures to require banks to set aside additional capital in proportion to their household assets ranging from 0% to 2.5% of the total risk-weighted assets. ▪ If adopted, the timing of enforcement will be determined flexibly after examining macroeconomic conditions amidst the COVID-19 pandemic.

Recommendations	Agency	Status	Description of Actions Taken
Intensifying Supervision and Promoting a Level Playing Field			
Review the role of state-controlled banks and ensure that their commercial lending and investment activities conform, at a minimum, with prudential requirements for nationwide banks	FSC/FSS	LD	<ul style="list-style-type: none"> To curb excessive commercial lending and investment activities of state-controlled banks, the Korea Development Bank and Industrial Bank of Korea will adopt Basel III framework by the end of 2020.
Increase risk-based supervisory intensity of insurers, ensure a prudent and proportionate implementation of Korea Insurance Capital Standard (K-ICS) (solvency regime) and design of the capital charge for longevity risks	FSC/FSS	LD	<ul style="list-style-type: none"> Additional capital charges are added to Korea Insurance Capital Standard (K-ICS) to deal with risks such as aging population and longevity. The FSC/FSS announced the revised version of K-ICS (K-ICS 4.0) in April 2021 in preparation for the implementation of K-ICS in 2023. The FSS conducted quantitative impact assessments on K-ICS (solvency regime) in 2021 to examine how insurance companies adopt K-ICS 4.0 and to analyze the impact of its application. The FSS came up with the final version of K-ICS in December 2021, adding longevity risks to the calculation of the amount of risk of life and long-term insurance policies. The FSS plans to conduct quantitative impact assessments on the final version of K-ICS in the first half of 2022 to examine how insurance companies adopt the final version and to analyze the impact of its application.
Focus the role of FSC towards strategy, addressing nonbank data gaps, market development policies, and crisis preparedness while assigning greater operational and enforcement authority to the FSS	MOEF and FSC/FSS	D	<ul style="list-style-type: none"> The FSC is responsible for formulating financial policies, supervising financial institutions, and financial markets, protecting consumers, and advancing Korea's financial industry. On the other hand, the FSS examines and supervises financial institutions under the oversight and guidance of the FSC as per the Act on the Establishment, etc. of Financial Services Commission. The FSC and FSS will closely cooperate with each other to address financial issues in a timely and harmonious way while playing their own role stipulated in the Act.
Support the development of pension and contractual savings products by introducing multi-employer pension schemes and building further capacity for oversight of pension funds market	FSC/FSS / MOE L	NA	

Recommendations	Agency	Status	Description of Actions Taken
Reinforcing Crisis Management, Safety Nets, Resolution Arrangements			
<p>Include cross-border activities and overseas operations of financial conglomerates in resolution plans, clarify issues relating to resolvability, and relationship between ELA and resolution funding</p>	FSC/FSS	LD	<ul style="list-style-type: none"> ▪ The Recovery and Resolution Plans (RRP) for financial holding companies and banks came into effect in June 2021. The first evaluation and deliberation of recovery plans are underway. (The Korea Deposit Insurance Corporation (KDIC) is working on drawing up resolution plans.) <ul style="list-style-type: none"> - Issues regarding cross-border activities/operations are included in FSC's deliberation standards on RRP and resolution plans developed by the KDIC. - If financial institutions fail to meet FSC's deliberation standards on RRP, the FSC may require them to supplement and address issues/challenges in accordance with the law. ▪ Pursuant to the amendment of the Act on the Structural Improvement of the Financial Industry (December 2020), D-SIFIs* are required to draw up their own recovery and resolution plans. (The requirements came into effect on June 30, 2021) <ul style="list-style-type: none"> * There are 10 D-SIFIs, including five big bank holding companies (Shinhan, KB, Woori, Hana, NH) - The FSS develops evaluation reports on the recovery plans prepared by D-SIFIs, and the FSC approves the recovery plans based on the evaluation reports
<p>Strengthen the insolvency and creditor's rights regime through well- resourced courts and a functioning insolvency practitioners' profession</p>	MoJ	NA	



Appendix I. Draft Press Release

IMF Executive Board Concludes 2022 Article IV Consultation with Republic of Korea

FOR IMMEDIATE RELEASE

Washington, DC – [Month dd, 2022]: The Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation¹ with the Republic of Korea.

Korea has recovered impressively from the COVID-19 pandemic, with activity surpassing pre-covid levels despite multiple COVID waves. The recovery was supported by the effective containment of the pandemic, including rapid vaccination in 2021, and pursuing proactive economic policy support, which helped minimize economic scarring, sustain income growth, and maintain financial stability. Given Korea's high global integration, strong external demand also supported the recovery. The economy has been growing above trend, but the recovery remains somewhat uneven. Technology exports and related investment have been a key drivers of growth, while the recovery in consumption has been slower. As a result, activity in some segments of the services sector still remain below pre-COVID levels. The labor market has been recovering well, but there is some remaining slack.

With continued strong exports and investment, growth is projected to remain above potential this year and next, closing any remaining output gap. Softer growth in the first quarter of this year due to omicron is expected to be temporary. Supply bottlenecks that impacted production in several sectors in 2021 are also normalizing. Inflation is projected to gradually return to target by next year. Risks to the outlook are tilted to the downside, principally arising from heightened global uncertainties and monetary normalization in advanced economies. Domestic risks are related to COVID developments and the elevated household debt and real estate prices. Risks to inflation are to the upside.

Given Korea's relatively advanced cyclical but somewhat uneven recovery and heightened global uncertainties, the near-term policy challenge is balancing the appropriate pace of policy normalization against heightened global risks, while containing the buildup of risks from housing

¹ Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

and household debt. Over the more medium-term as the pandemic abates, the policy focus will need to shift to structural reform priorities centered around the Korea New Deal to reinvigorate potential growth and foster greater inclusion. This will require recalibrating policies to support productivity growth and innovation, providing transitory support amidst reforms to address product, services, and labor market rigidities, and ensuring that Korea's human capital remains a central pillar of the transformation process.

Executive Board Assessment²

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² At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: <http://www.IMF.org/external/np/sec/misc/qualifiers.htm>.

Table 1. Korea: Selected Economic Indicators, 2019-22¹

	2019	2020	Estimates 2021	Projections 2022
Real GDP (percent change)	2.2	-0.9	4.0	3.0
Total domestic demand	1.5	-1.5	3.3	3.4
Final domestic demand	1.5	-0.9	3.6	3.1
Consumption	3.2	-2.4	4.1	3.7
Gross fixed investment	-2.1	2.6	2.5	1.8
Stock building 2/	0.0	-0.6	-0.3	0.0
Net foreign balance 2/	0.8	0.5	0.7	0.0
Nominal GDP (in trillions of won)	1,924	1,933	2,067	2,196
Saving and investment (in percent of GDP)				
Gross national saving	34.8	36.2	37.0	36.8
Gross domestic investment	31.5	31.9	32.1	32.4
Current account balance	3.6	4.6	4.9	4.3
Prices (percent change)				
CPI inflation (end of period)	0.7	0.6	3.7	2.5
CPI inflation (average)	0.4	0.5	2.5	3.1
Core inflation (average)	0.7	0.4	1.4	...
GDP deflator	-0.8	1.3	2.8	3.2
Real effective exchange rate	-4.5	-1.9	0.1	...
Trade (percent change)				
Export volume	-2.1	0.9	8.1	6.3
Import volume	-2.5	-0.1	11.8	7.7
Terms of trade	-4.1	3.8	-2.8	-0.5
Consolidated central government (in percent of GDP)				
Revenue	22.9	23.0	25.5	24.5
Expenditure	22.6	25.2	26.2	25.7
Net lending (+) / borrowing (-)	0.4	-2.2	-0.6	-1.2
Overall balance	-0.6	-3.7	-2.0	-2.0
Excluding Social Security Funds	-2.8	-5.8	-4.0	-4.0
General government debt	42.1	48.9	49.6	51.1
Money and credit (end of period)				
Overnight call rate	1.4	0.6	1.4	...
Three-year AA- corporate bond yield	1.9	2.2	2.4	...
M3 growth	9.0	9.1	11.0	6.6
Balance of payments (in billions of U.S. dollars)				
Exports, f.o.b.	556.7	517.9	650.0	721.5
Imports, f.o.b.	476.9	437.3	573.8	648.5
Current account balance	59.7	75.9	88.3	80.3
Gross international reserves (end of period) 3/	404.0	438.3	458.3	482.3
In percent of short-term debt (residual maturity)	206.3	191.6	206.8	211.7
External debt (in billions of U.S. dollars)				
Total external debt (in percent of GDP)	28.5	33.3	35.1	38.0

Sources: Korean authorities; and IMF staff estimates and projections.

1/ This reflects the available information and projections when the 2022 Article IV Consultation staff report was finalized. It does not incorporate the impact of the subsequently announced supplementary budget.

2/ Contribution to GDP growth.

3/ Excludes gold.